Honeywell

ONVIF Cameras

NTSC / PAL

3-inch Dome Cameras		4-inch Dome Cameras		Box Cameras	
H3D1F	H3D1FX	H4D1F	H4D1FX	HCD1F	HCD1FX
H3D2F	H3D2FX	H4D2F	H4D2FX	HCD2F	HCD2FX
H3S1P	H3S1PX	H4S1P	H4S1PX	HCW1F	HCW1FX
H3SVP	H3SVPX	H4SVP	H4SVPX		
H3W1F	H3W1FX	H4W1F	H4W1FX		

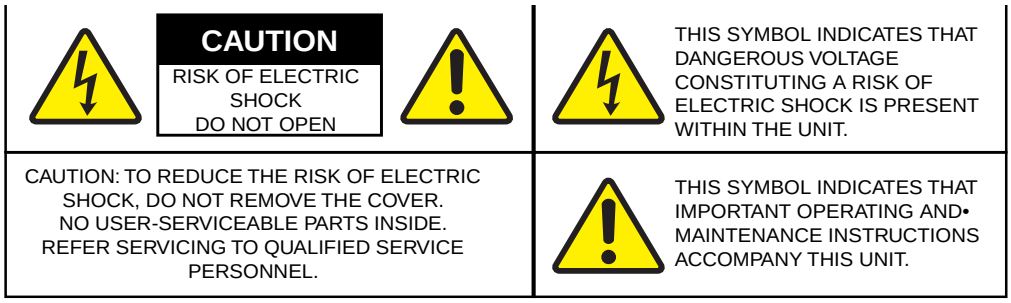
User Guide

Document 800-13160V2 – Rev A – 04/2013

Revisions

Issue	Date	Revisions
A	02/2013	New document.
V1 Rev A	03/2012	Updated the Specifications appendices, including the temperature ranges, the supported protocols, and the dimension drawings.
V2 Rev A	04/2013	Corrected the Angle of View specifications for the 4-inch minidome cameras. In the VMD section, added examples for configuring region-of-interest boxes for Wide Angle FOV cameras (HCW1F, H3W1F, H4W1F).

Cautions and Warnings


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND• MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.

Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

CAUTION **24 V AC models require the use of CSA Certified/UL Listed Class 2 power adapters to ensure compliance with electrical safety standards. Power over Ethernet (PoE) should meet the IEEE 802.3 af PoE standard.**

Regulatory Statements

FCC Compliance Statement

Information to the User: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

Manufacturer's Declaration of Conformance

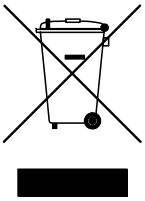
North America

The equipment supplied with this guide conforms to UL 60950-1 and CSA C22.2 No. 60950-1.

Europe

The manufacturer declares that the equipment supplied is compliant with the essential requirements of the EMC directive 2004/108/EC, conforming to the requirements of standards EN 55022 for emissions, EN 50130-4 for immunity, and EN 60950-1 for electrical equipment safety.

Waste Electrical and Electronic Equipment (WEEE)



Correct Disposal of this Product (applicable in the European Union and other European countries with separate collection systems).

This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Safety Instructions

Before installing or operating the unit, read and follow all instructions. After installation, retain the safety and operating instructions for future reference.

1. **HEED WARNINGS** - Adhere to all warnings on the unit and in the operating instructions.

2. **INSTALLATION**
    - Install in accordance with the manufacturer's instructions.
    - Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.
    - Do not install the unit in an extremely hot or humid location, or in a place subject to dust or mechanical vibration. The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.
    - Any wall or ceiling mounting of the product should follow the manufacturer's instructions and use a mounting kit approved or recommended by the manufacturer.
3. **POWER SOURCES** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your facility, consult your product dealer or local power company.
4. **HEAT** - Situate away from items that produce heat or are heat sources such as radiators, heat registers, stoves, or other products (including amplifiers).
5. **WATER AND MOISTURE** - Do not use this unit near water or in an unprotected outdoor installation, or any area classified as a wet location.
6. **MOUNTING SYSTEM -** Use only with a mounting system recommended by the manufacturer, or sold with the product.
7. **ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
8. **ACCESSORIES** - Only use accessories specified by the manufacturer.
9. **CLEANING** - Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
10. **SERVICING** - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
11. **REPLACEMENT PARTS** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards. Using replacement parts or accessories other than the original manufacturers may invalidate the warranty.
12. **DAMAGE REQUIRING SERVICE** - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
    - When the power-supply cord or plug is damaged.
    - If liquid has been spilled, or objects have fallen into the unit.
    - If the unit has been exposed to rain or water.
    - If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
    - If the unit has been dropped or the enclosure has been damaged.
    - When the unit exhibits a distinct change in performance - this indicates a need for service.
13. **SAFETY CHECK** - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

Warranty and Service

Subject to the terms and conditions listed on the Product warranty, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service at 1.800.323.4576 for assistance or to request a **Return Merchandise Authorization (RMA)** number.

Be sure to have the model number, serial number, and the nature of the problem available for the technical service representative.

Prior authorization must be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused.**

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About This Document

This document is intended for system installers, administrators, and operators.

It introduces the Honeywell ONVIF IP Cameras. It describes how to install the camera and the IP utility, and how to configure and operate your camera in a network environment.

For instructions on installing your camera, please see the appropriate Quick Install Guide.

Overview of Contents

This document contains the following chapters and appendixes:

- *Chapter 1, Introduction*, introduces your ONVIF IP camera and gives a functional overview of its components.
- *Chapter 2, Installing a Box Camera*, describes how to install and connect an ONVIF box camera.
- *Chapter 3, Installing a 3-Inch Minidome Camera*, describes how to install and connect a 3-inch minidome ONVIF camera.
- *Chapter 4, Installing a 4-Inch Minidome Camera*, describes how to install and connect a 4-inch minidome ONVIF camera.
- *Chapter 5, Installing the Honeywell IP Utility*, describes how to install the Honeywell IP Utility and set up administrator privileges; how to connect to a device and to configure network settings.
- *Chapter 6, IP Camera Web Client*, describes how to use the web client application to view video and configure the available settings for the network camera.
- *Appendix A, Troubleshooting*, lists common problems encountered when setting up the network camera.
- *Appendix E, H3D2F(X) Specifications*, provides specifications for your H3D2F(X) camera.
- *Appendix F, H3D1F(X) Specifications*, provides specifications for your H3D1F(X) camera.
- *Appendix G, H3SVP(X) and H3S1P(X) Specifications*, provides specifications for your H3SVP(X) and/or H3S1P(X) series camera.
- *Appendix H, H3W1F(X) Specifications*, provides specifications for your H3W1F(X) camera.
- *Appendix I, H4D2F(X) Specifications*, provides specifications for your H4D2F(X) camera.

- *Appendix J, H4D1F(X) Specifications*, provides specifications for your H4D1F(X) camera.
- *Appendix K, H4SVP(X) and H4S1P(X) Specifications*, provides specifications for your H4SVP(X) and/or H4S1P(X) camera.
- *Appendix L, H4W1F(X) Specifications*, provides specifications for your H4W1F(X) camera.
- *Appendix B, HCD2F(X) Specifications*, provides specifications for your HCD2F(X) camera.
- *Appendix C, HCD1F(X) Specifications*, provides specifications for your HCD1F(X) camera.
- *Appendix L, H4W1F(X) Specifications*, provides specifications for your HCW1F(X) camera.
- *Appendix M, Glossary*, explains terms and initializations used in this guide.
- The *Index* provides quick access to commonly searched terms.

1

Introduction

The ONVIF IP Camera provides high quality video surveillance over a network connection. See *Table 1-1*, *Table 1-2*, and *Table 1-3* for descriptions of the camera models.

Table 1-1 3-inch Minidome Camera Model Numbers

Model number	Description
H3D2F1	True Day/Night 1080p resolution, 3.0 – 9.0 mm VFAI Motorized Focus and Zoom Lens, NTSC
H3D2F1X	True Day/Night 1080p resolution, 3.0 – 9.0 mm VFAI Motorized Focus and Zoom Lens, PAL
H3D1F1	True Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, NTSC
H3D1F1X	True Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, PAL
H3S1P1	Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, NTSC
H3S1P1X	Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, PAL
H3SVP1	Day/Night VGA resolution, 3.3 – 12.0 mm VFAI Lens, NTSC
H3SVP1X	Day/Night VGA resolution, 3.3 – 12.0 mm VFAI Lens, PAL
H3W1F1	True Day/Night 720p resolution WDR, 3.3 – 12.0 mm VFAI Lens, NTSC
H3W1F1X	True Day/Night 720p resolution WDR, 3.3 – 12.0 mm VFAI Lens, PAL

Table 1-2 4-inch Minidome Camera Model Numbers

Model number	Description
H4D2F1	True Day/Night 1080p resolution, 3.0 – 9.0 mm VFAI Motorized Focus and Zoom Lens, NTSC
H4D2F1X	True Day/Night 1080p resolution, 3.0 – 9.0 mm VFAI Motorized Focus and Zoom Lens, PAL
H4D1F1	True Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, NTSC
H4D1FX1	True Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, PAL
H4S1P1	Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, NTSC
H4S1P1X	Day/Night 720p resolution, 3.3 – 12.0 mm VFAI Lens, PAL

Table 1-2 4-inch Minidome Camera Model Numbers

Model number	Description
H4SVP1	Day/Night VGA resolution, 3.3 – 12.0 mm VFAI Lens, NTSC
H4SVP1X	Day/Night VGA resolution, 3.3 – 12.0 mm VFAI Lens, PAL
H4W1F1	True Day/Night 720p resolution WDR, 3.3 – 12.0 mm VFAI Lens, NTSC
H4W1F1X	True Day/Night 720p resolution WDR, 3.3 – 12.0 mm VFAI Lens, PAL

Table 1-3 Box Camera Model Numbers

Model number	Description
HCD2F	True Day/Night 1080p resolution Network Camera, NTSC
HCD2FX	True Day/Night 1080p resolution Network Camera, PAL
HCD1F	True Day/Night 720p resolution Network Camera, NTSC
HCD1FX	True Day/Night 720p resolution Network Camera, PAL
HCW1F	True Day/Night Wide Dynamic 720p resolution Network Camera, NTSC
HCW1FX	True Day/Night Wide Dynamic 720p resolution Network Camera, PAL

Features

equIP Series 720p Cameras features:

Model	Resolution	Scan Sensor	Camera type
HCD1F(X)	720p (1280 x 720)	1/4" color CMOS progressive	Box
H3D1F1(X)	720p (1280 x 720)	1/4" color CMOS progressive	3-inch indoor minidome
H4D1F1(X)	720p (1280 x 720)	1/4" color CMOS progressive	4-inch rugged minidome

Features:

- Outstanding image quality, 720p (1280 x 720) resolution
- 30 fps (25 fps PAL) progressive scan
- True Day/Night, 3.3-12.0 mm VFAI lens with removable IR cut filter [H3D1F(X) and H4D1F(X)]
- Camera tamper detection
- Video motion detection
- Wall/pendant mount kit available [not available for HCD1F(X)]
- NTP time synchronization support
- ONVIF support
- Programmable daylight threshold settings to deliver color or black/white images.
- Dual digital video streams, independently configurable, H.264 and/or H.264/MJPEG
- Remote firmware update
- Supports both dynamic and static IP addresses
- Date/time stamp embedded into video stream
- Multiple browser support
- Single model for surface mount and recessed ceiling applications, 4S adapter plate also supplied [H3D1F(X) only]
- Includes advanced IP locator software to make system setup easy
- Web server for remote setup of camera video and network parameters
- Choice of 24 V AC or PoE IEEE 802.3af power inputs
- Supports input and output alarm contacts
- Supports bidirectional audio
- Rugged polycarbonate dome [H4D1F(X) only]
- IP66 [H4D1F(X) only]

equIP Series Wide Dynamic 720p Cameras features:

Model	Resolution	Scan Sensor	Camera type
HCW1F(X)	720p (1280 x 720)	1/3" color CMOS progressive	Box
H3W1F1(X	720p (1280 x 720)	1/3" color CMOS progressive	3-inch indoor minidome
H4W1F1(X)	720p (1280 x 720)	1/3" color CMOS progressive	4-inch rugged minidome

Features:

- Outstanding image quality, 720p (1280 × 720) resolution
- 30 fps (25 fps PAL) progressive scan
- True Day/Night, 3.3-12 mm VFAI lens with mechanical IR cut filter [H3W1F(X) and H4W1F(X) only]
- Dynamic Range: 115 dB
- Camera tamper detection
- Video motion detection
- Wall/pendant mount kit available [H3W1F(X) and H4W1F(X) only]
- NTP time synchronization support
- ONVIF support
- Programmable daylight threshold settings to deliver color or black/white images.
- Dual digital video streams, independently configurable, H.264 and/or H.264/MJPEG
- Remote firmware update
- Supports both dynamic and static IP addresses
- Date/time stamp embedded into video stream
- Multiple browser support
- Single model for surface mount and recessed ceiling applications, 4S adapter plate also supplied [H3W1P(X) model only]
- Includes advanced IP locator software to make system setup easy
- Web server for remote setup of camera video and network parameters
- Choice of 24 V AC or PoE IEEE 802.3af power inputs
- Supports input and output alarm contacts
- Supports bidirectional audio
- Rugged polycarbonate dome [H4W1F(X) only]
- IP66 [H4W1F(X) only]

Performance Series 720p and VGA camera features:

Model	Resolution	Scan Sensor	Camera type
H3S1P1(X)	720p (1280 x 720)	1/4" color CMOS progressive	3-inch indoor minidome
H3SVP1(X)	VGA (640 x 480)	1/4" color CMOS progressive	3-inch indoor minidome
H4S1P1(X)	720p (1280 x 720)	1/4" color CMOS progressive	4-inch rugged minidome
H4SVP1(X)	VGA (640 x 480)	1/4" color CMOS progressive	4-inch rugged minidome

Features:

- 30 fps (25 fps PAL) progressive scan
- Day/Night, 3.3-12.0 mm VFAI lens
- Selectable aspect ratios (4:3 or 16:9) [H3SVP(X) and H4SVP(X) only]
- Camera tamper detection
- Video motion detection
- Single model for surface mount applications
- Wall/pendant mount kit available
- NTP time synchronization support
- ONVIF support
- Programmable daylight threshold settings to deliver color or black/white images.
- Simultaneous dual video streams, independently configurable, H.264 and/or H.264/MJPEG
- Remote firmware updates
- Supports both dynamic and static IP address assignment
- Date/time stamp embedded into video stream
- Multiple browser support
- Includes advanced IP locator software to make system setup easy
- Web server for remote setup of camera video and network parameters
- Choice of 24 V AC or PoE IEEE 802.3af power inputs
- Rugged polycarbonate dome [H4S1P(X) and H4SVP(X) only]
- IP66 [H4S1P1(X) and H4SVP1(X)]

equIP Series 1080p camera features:

Model	Resolution	Scan Sensor	Camera type
HCD2F(X)	1080p (1920 x 1080)	1/2.7" color CMOS progressive	Box
H3D2F1(X)	1080p (1920 x 1080)	1/2.7" color CMOS progressive	3-inch indoor minidome
H4D2F1(X)	1080p (1920 x 1080)	1/2.7" color CMOS progressive	4-inch rugged minidome

Features:

- Outstanding image quality, 1080p (1920 × 1080) resolution
- 30 fps (25 fps PAL) progressive scan
- True Day/Night, 3.0-9.0 mm MFZ lens with mechanical IR cut filter [H3D2F(X) and H4D2F(X)]
- Camera tamper detection
- Video motion detection
- Wall/pendant mount kit available
- NTP time synchronization support
- ONVIF support
- Programmable daylight threshold settings to deliver color or black/white images.
- Dual digital video streams, independently configurable, H.264 and/or H.264/MJPEG
- Remote firmware update
- Supports both dynamic and static IP addresses
- Date/time stamp embedded into video stream
- Multiple browser support
- Single model for surface mount and recessed ceiling applications, 4S adapter plate also supplied [H3D2F(X) only]
- Includes advanced IP locator software to make system setup easy
- Web server for remote setup of camera video and network parameters
- Choice of 24 V AC or PoE IEEE 802.3af power inputs
- Supports input and output alarm contacts
- Supports bidirectional audio
- Rugged polycarbonate dome [H4D2F(X) only]
- IP66 [H4D2F(X) only]

2

Installing a Box Camera

This chapter describes how to:

- Mount the box camera(s)
- Adjust the box camera(s) for the clearest image
- Set up box cameras in a network system

Box Camera Models

This chapter applies to the following ONVIF cameras:

- HCD2F(X)
- HCD1F(X)
- HCW1F(X)

Before you Begin

Before you install your IP box camera:

- Please read this guide carefully. Keep this guide for future reference.
- Before installing the camera, Honeywell recommends that you download the latest software updates. Go to *www.honeywellvideo.com/support/ download-center/index.html* and follow the instructions on the page to logon, find your camera, and then download the latest software updates.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

Unpack Everything

Check that the items received match those listed on the order form and packing slip. The packing box should include, in addition to this User Guide:

- One network camera
- 3-pin terminal block for Power input
- 4-pin terminal block for Alarm input/output
- One product warranty
- One DVD containing the product software and the User Guide

If any parts are missing or damaged, contact the dealer you purchased the camera from or call Honeywell Customer Service (see *Warranty and Service on page 6*).

Overview of the Installation Procedure

This network camera is intended for indoor use only. If you choose to mount the camera outdoors, you must employ a suitable weatherproof enclosure (such as Honeywell's HHCWM camera housing). See *www.honeywellvideo.com* for information on Honeywell weatherproof enclosures and mounting brackets.

Note Please familiarize yourself with the installation procedure and complete each step in the sequence given.

The initial installation of a network camera consists of the following steps:

Table 2-4 Steps for Installing the Camera

Step		See …
1	Select the lens.	*Selecting the Lens on page 27*
2	Adjust the back focus.	*Adjusting the Back Focus on page 27*
3	Mount the camera.	*Mounting the Camera on page 27*
4	Connect the camera.	*Connecting Video on page 29* and *Connecting Power on page 29*
5	Program the camera.	*Camera Setup on page 99*

Installation

Selecting the Lens

The network camera supports the use of a manual iris lens or DC (Direct Drive) auto iris lens. When using a DC auto iris lens, it should be connected to the camera through the 4-pin square socket located at the side of the camera (see X).

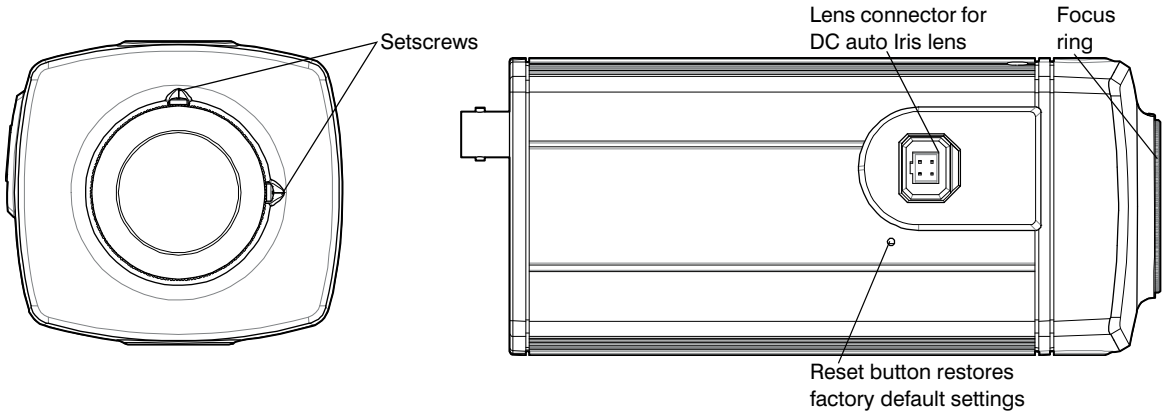
If you are dissatisfied with the sharpness of the image, then you should ensure that you are using a megapixel lens. For a list of recommended lenses, go to *www.honeywellvideo.com/products/cameras/*.

Adjusting the Back Focus

The back focus adjustment is accessible at the front end of the camera housing to adjust the back focal length or picture focus.

The range of adjustment allows the CS-mount lenses to be used without the need for a spacer ring.

Figure 2-1 Back Focus Adjustment



1. Loosen the setscrews with a Phillips screwdriver.
2. Adjust the focus ring at the front end of the camera housing to focus the picture.
3. Re-tighten the setscrews.

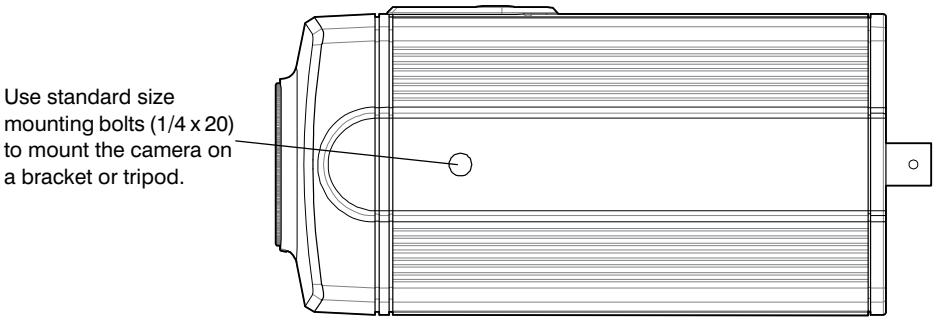
Mounting the Camera

Mounting points are provided on the top and bottom of the camera and are used to mount the camera on a bracket or tripod for indoor applications. They are designed to accept standard sized mounting bolts (1/4 x 20). The mounting bracket must be capable of supporting the weight of the camera and its lens.

CAUTION **Some installation codes state that the mounting bracket must be capable of supporting up to four times the combined weight of the camera and lens.**

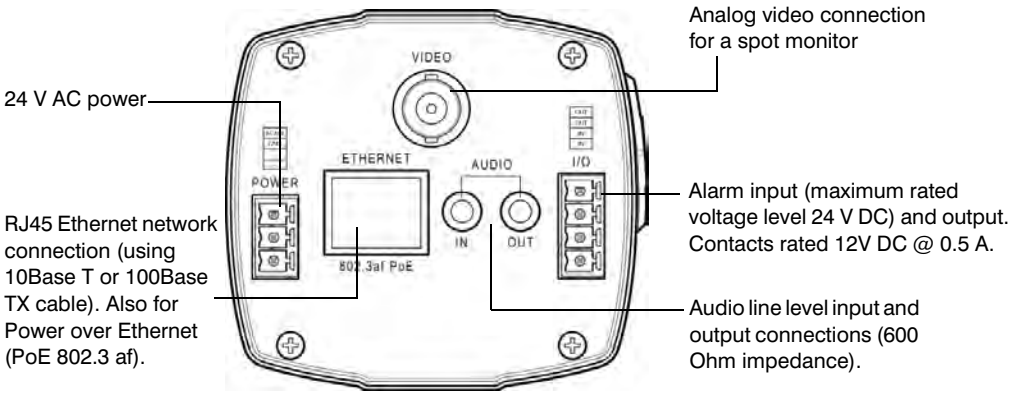
For outdoor applications, mount the camera inside a weatherproof enclosure. See *www.honeywellvideo.com* for information on Honeywell weatherproof enclosures.

Figure 2-2 Camera Mount



Wiring

Figure 2-3 Camera Connections


Analog video connection for a spot monitor
24 V AC power
VIDEO
ETHERNET
AUDIO
I/O
POWER
IN
OUT
802.3af PoE
Alarm input (maximum rated voltage level 24 V DC) and output. Contacts rated 12V DC @ 0.5 A.
RJ45 Ethernet network connection (using 10Base T or 100Base TX cable). Also for Power over Ethernet (PoE 802.3 af).
Audio line level input and output connections (600 Ohm impedance).

CAUTION **Installation must be performed by a qualified service technician and must be in accordance with all national and local mechanical and electrical codes.**

Connecting Video

Spot Monitor

The analog video connection is available as a test output and should be used during installation to aim and focus the camera as needed.

Connect the **VIDEO** connector on the rear of the camera to the video input connector on your spot monitor.

Network RJ-45 Ethernet Connection

The main video connection for your network camera will be made through your Ethernet network connection. Connect the Ethernet connector on the rear of the camera to your network using an Ethernet (10Base-T, 100Base-TX) cable.

Note You can connect your camera to a network or connect it directly to a PC or laptop using a crossover cable.

Connecting Power

CAUTION When connecting a power supply, use a 24 V AC power plug or a PoE IEEE 802.3 (Power over Ethernet) compatible hub. To avoid damage to the camera, never connect more than one type of power supply at the same time.

WARNING The use of a CSA Certified/UL Listed Class 2 power supply is required to ensure compliance with electrical safety standards

Note Check the power source from the external power supply before applying power to the camera.

Connect the camera to a power supply appropriate for your installation. There are two ways to power your camera:

- 24 V AC power supply
- Power over Ethernet (PoE IEEE 802.3 af) 48V DC power supply

	24 V AC Power Supply	PoE
1	Use a screwdriver to first loosen the ~AC24 V terminal screws on the terminal block. (Remove the terminal block from the camera, if desired.)	Connect to the CAT5 Ethernet network connector.
2	Connect the power leads to the connector terminals. The power connections are not polarity sensitive.	If you are using PoE (802.3 af), power will automatically be supplied to the camera through the network cable.
3	Secure the power leads by tightening the terminal screws until snug.	
4	Plug the power supply into an appropriate power source.	
5	If your installation involves a 24 V AC power source, then please wait approximately 60 seconds after connecting to a power source for video to appear on the local video out.	

Note Connect power either from a 24 V AC source or CAT5 Ethernet connector (PoE). It is not recommended to connect both power sources at the same time.

Note For secure installations, surface-mounted cables should be protected by plastic or metal cable covers.

3

Installing a 3-Inch Minidome Camera

This chapter describes how to:

- Mount a 3-inch minidome camera
- Adjust a 3-inch minidome camera for the clearest image
- Set up a 3-inch minidome camera in a network system

3-inch Minidome Camera Models

This chapter applies to the following ONVIF cameras:

- H3D2F(X)
- H3D1F(X)
- H3S1P(X)
- H3SVP(X)
- H3W1F(X)

Before you Begin

Before you install your 3-inch minidome camera:

- Please read this guide carefully. Keep this guide for future reference.
- Before installing the camera, Honeywell recommends that you download the latest software updates. Go to *www.honeywellvideo.com/support/ download-center/index.html* and follow the instructions on the page to logon, find your camera, and then download the latest software updates.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

Unpack Everything

Check that the items received match those listed on the order form and packing slip. Your 3-inch minidome camera packing box should include, in addition to a Quick Install Guide:

- One fully-assembled 3-inch minidome camera, including factory-installed BNC connector for local video out aim and focus
- One adapter plate
- One 3-inch minidome camera hardware kit that includes mounting screws and screw caps
- One BNC cable for local video out - aim and focus
- One mounting template
- One product warranty
- One DVD containing the software and this User Guide

If any parts are missing or damaged, contact the dealer you purchased the camera from or call Honeywell Customer Service (see *Warranty and Service on page 6*).

Equipment Required

The following tools might help you to complete the installation:

- Drill
- Screwdrivers
- Wire cutters

Overview of the Installation Procedure

Note Please familiarize yourself with the installation procedure and complete each step in the exact sequence given.

The initial installation of your 3-inch minidome camera consists of the following steps:

Table 3-5 Steps for Installing Your 3-inch Minidome Camera

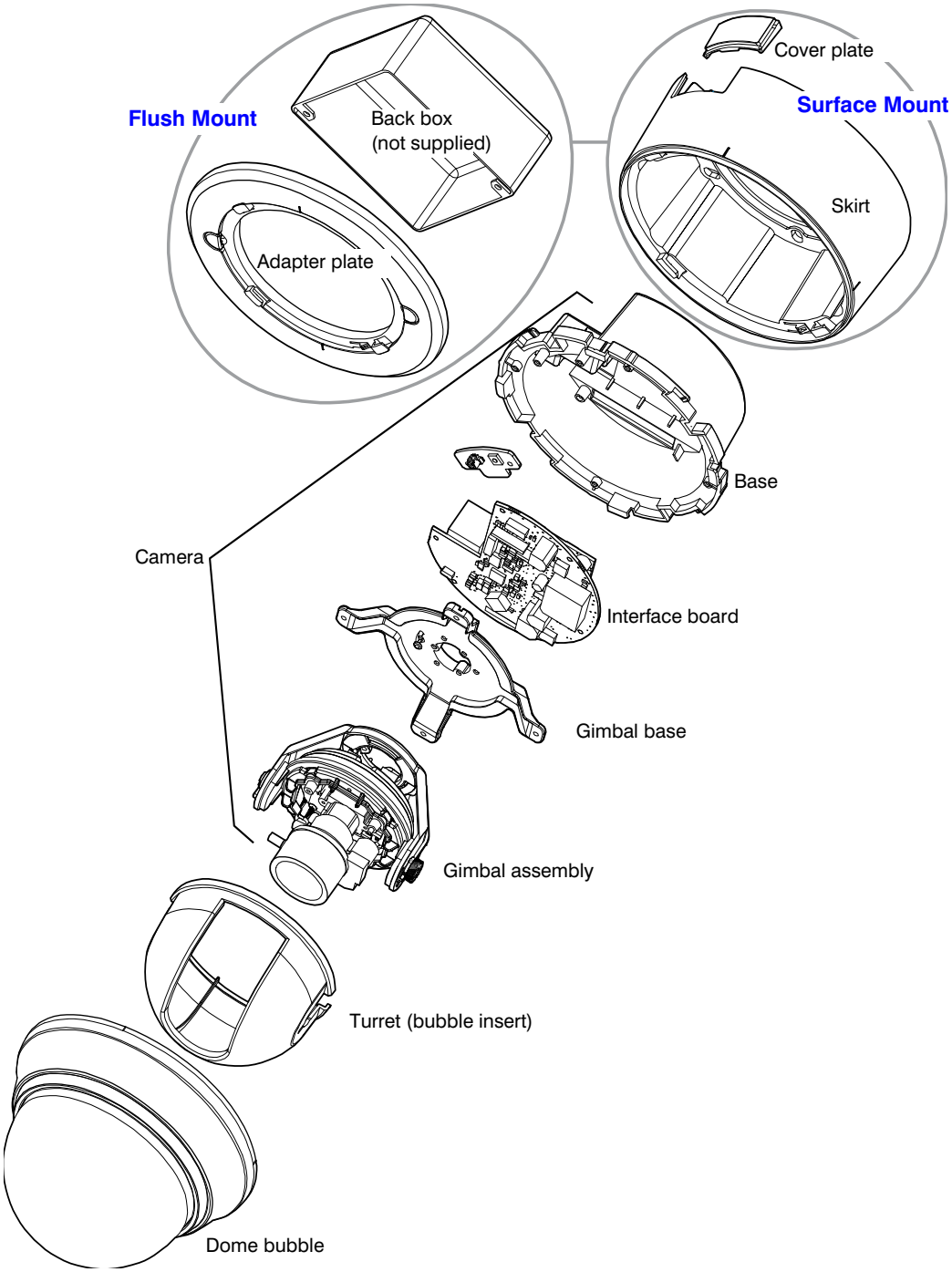
	Step	See …
1	Preparation	*Preparing the Camera, page 35*
2	Connect the wiring.	*Connecting the Wires, page 36*
	Mount the camera.	*Mounting the Camera, page 40*

	Step	See …
3	Adjust the camera angle, position, and focus for optimum image.	*Adjusting the Camera Field of View (FOV), page 41*
4	Secure the enclosure cover.	*Securing the Enclosure Cover, page 44*
5	Program the camera.	*Camera Setup, page 99*

Camera Components and Functions

Your 3-inch minidome camera consists of a fully-integrated enclosure with camera and lens. The wiring can be completely concealed to reduce the risk of tampering.

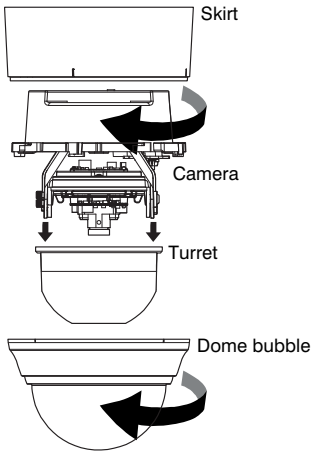
Figure 3-4 3-inch Minidome Camera Components



Camera Installation

Preparing the Camera

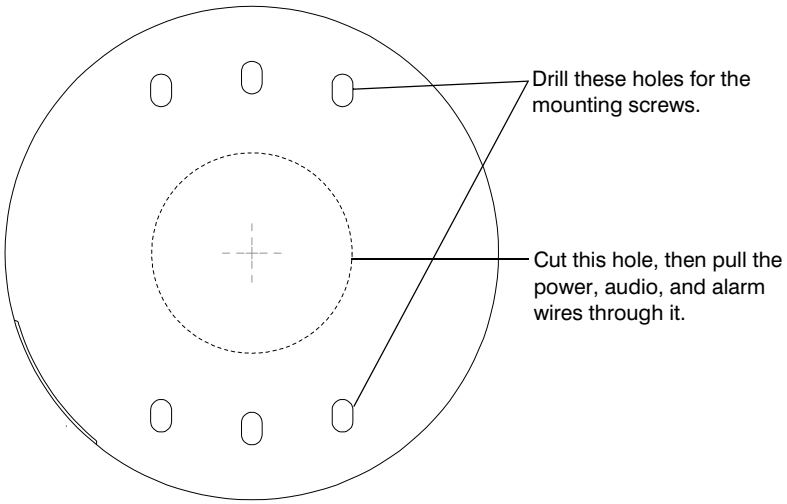
1. Rotate the dome bubble counterclockwise until it disconnects.
2. Pull the turret to remove it.
3. Rotate the camera counterclockwise until it disconnects from the skirt.
4. Set aside the dome bubble, turret, and camera.



Preparing the Mounting Surface

1. Mark the mounting surface for screw holes and wire access hole.
   - Use the mounting template (supplied in your camera box) if you are surface mounting your camera.
   - Use the flush mount adapter plate as a template if you are flush mounting your camera.

Figure 3-5 Surface-Mounting Template



2. Pre-drill the holes as indicated on the template, using the recommended hole size for the screws being used.

Note Other fasteners (preferably stainless steel) can be used, provided they are not larger than the screw holes on the mounting template.

Connecting the Wires

CAUTION **Installation must be performed by a qualified electrician. The power wire size for the distance and the number of cameras must be determined to maintain 24 V AC at each camera.**

Connecting Audio and Alarms

Note H3SVP and H3S1P cameras do not support alarms and audio.

1. Pull the wires through the ceiling or wall hole until you have at least 4 inches of wire.
2. Remove the green connector strip (see *Figure 3-9* on *page 39*) from the camera base and make all the necessary alarm and audio connections.
3. Connect a twisted pair (UTP) cable from each peripheral alarm contact to each alarm input on the terminal block, as shown in *Figure 3-6* and *Table 3-6*.

Figure 3-6 Audio and Alarm PINs

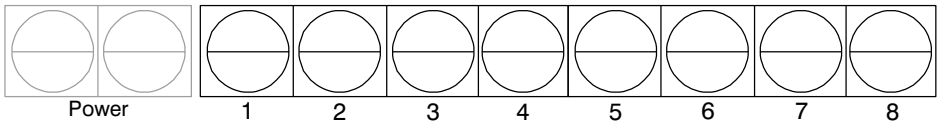


Table 3-6 Audio and Alarm Connector PIN Descriptions

Table 3-1

PIN	Definition
1	Audio In +
2	Audio In -
3	Audio Out +
4	Audio Out -
5	Alarm In +
6	Alarm In -
7	Alarm Out +
8	Alarm Out -

Connecting Audio

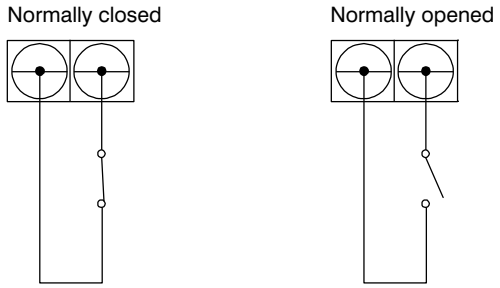
Your network camera supports bi-directional audio. There are two supported voice band channels that function in full duplex mode. Your camera can transmit audio from the camera to the client (PC) using any audio source that provides an industry standard line level input (see the terminal strip as depicted in *Figure 3-9* on *page 39*). Your camera can also receive audio from the client (PC) and provide an industry standard line level output suitable to connect to audio devices. Audio input and output have 600 Ohm impedance. See *Configuring Audio Settings on page 112* to configure audio options.

Connecting Alarms

WARNING Do not exceed the maximum rating of 12 V DC, 0.5 A on alarm output connections.

Your 3-inch minidome camera has one alarm input and one alarm output. Connect mechanical or electrical switches to the alarm input connection to allow event-triggered recording. When alarm inputs are configured, your 3-inch minidome camera triggers an alarm only when the normal alarm state (open or closed) changes.

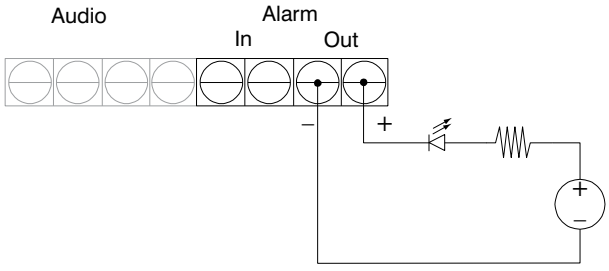
Figure 3-7 Normal Open States



See *Configuring Alarms on page 113* to configure the alarm inputs.

Connect external devices such as sirens or flashing lights to the alarm output connector to signal an activated alarm to camera users.

Figure 3-8 Alarm Connection



The alarm output can be configured to provide normally open or normally closed contacts (see *Configuring Alarms on page 113* to configure the alarm output). Contacts will be rated for 12 V DC @ 0.5 A.

4. Pull the cables through the back or side entries of the camera skirt, back box and/or adapter plate (as required), then connect the green connector strip to the camera assembly. You might have to remove the cover plate for flush mounting the camera.

Connecting Power

WARNING **The use of a CSA Certified/UL Listed Class 2 power supply is required to ensure compliance with electrical safety standards.**

Note Check the power source from the external power supply before applying power to the camera.

1. Connect the appropriate power supply for your installation:
   - 24 V AC power supply (proceed to *step 2*)

     or
   - Power over Ethernet (IEEE 802.3af) 48 V DC power supply

Note Connect power either from a 24 V AC source or CAT5 Ethernet connector (PoE). It is not recommended to connect both power sources at the same time.

Note If you are using PoE (802.3af), power will automatically be supplied to the camera through the network cable.

2. Connect to the power supply (see *Figure 3-9* on *page 39*).
3. Plug the power supply into an appropriate power source. The LED on the RJ45 jack illuminates when the camera receives power. If it does not illuminate, check the terminal block connections and the power source.

Note To ensure satisfactory performance, it is recommended that you use a UPS source when connecting the camera to a 24 V AC power source.

Figure 3-9 Camera and Cable Connections

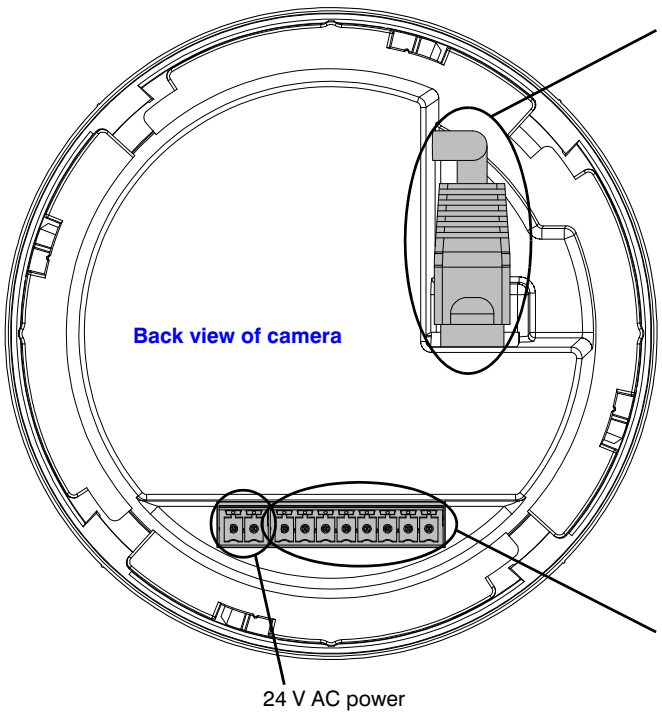
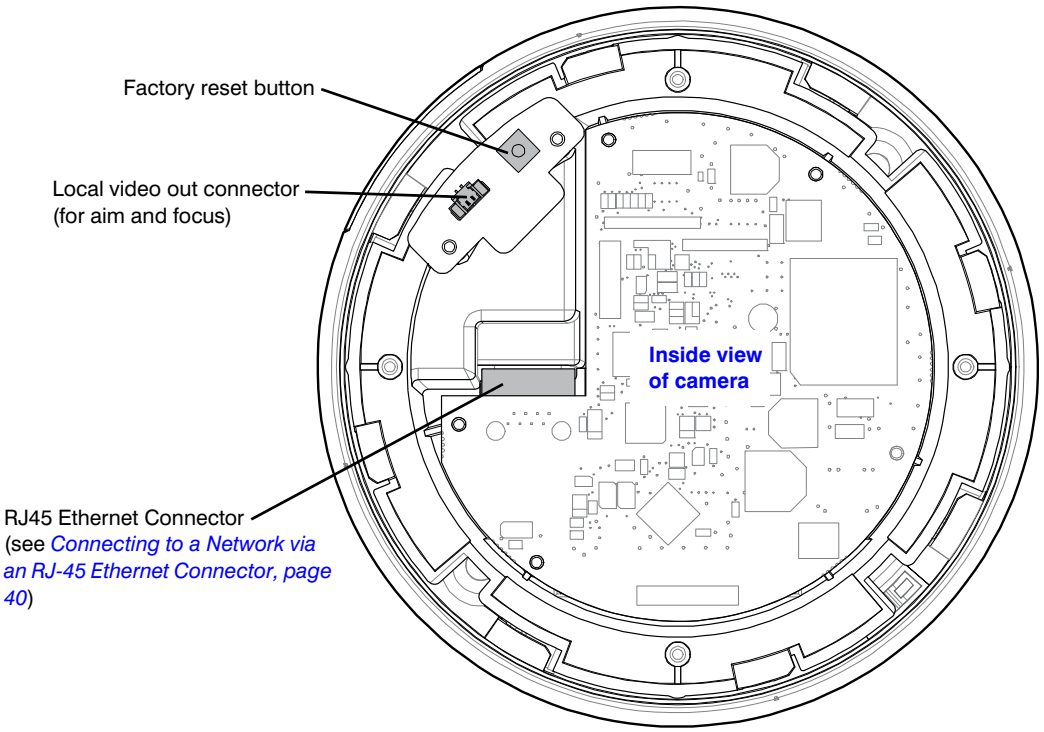

RJ45 Ethernet network connection (using 10Base T or 100Base TX cable). See Connecting to a Network via an RJ-45 Ethernet Connector, page 40)
Also for Power over Ethernet (PoE 802.3af)
Back view of camera
Connector Strip
Audio: Input/Output
Alarm: Input/Output
(see Connecting Alarms, page 37)
24 V AC power

Figure 3-10 Wiring Connections Shown on Board


Factory reset button
Local video out connector
(for aim and focus)
Inside view of camera
RJ45 Ethernet Connector
(see Connecting to a Network via an RJ-45 Ethernet Connector, page 40)

Connecting to a Video Monitor

The local video out (see *Figure 3-10*) is available as a test output and should be used as needed during installation to position, aim, and focus the camera. Use the provided BNC connector to connect the video from the camera to the video input connector on your video monitor.

Note If your installation involves a 24 V AC power source, then please wait approximately 60 seconds after connecting to a power source for video to appear on the local video out.

Connecting to a Network via an RJ-45 Ethernet Connector

The main video connection for your HD3 series camera will be made through your Ethernet network connection. Connect the Ethernet connector on your camera to your network using an Ethernet (10Base-T, 100Base-TX) cable.

Note You can connect your camera to a network or use any type of CAT5 cable to connect it directly to a PC or laptop.

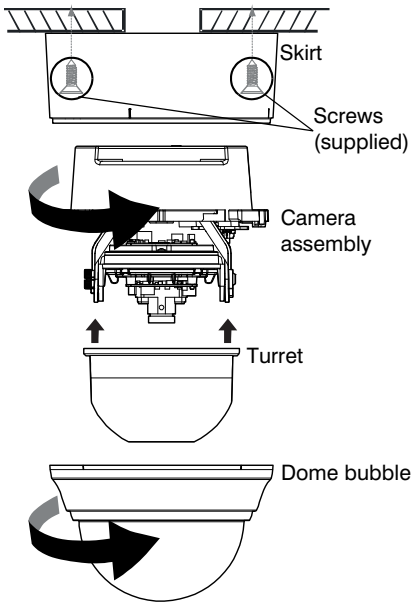
Mounting the Camera

Surface Mount

1. Secure the skirt to the ceiling (hardware not supplied) or to the wall using the supplied screws.

Note You must use screws that are able to support at least three times the weight of the camera.

2. Connect the wires (see *Connecting the Wires, page 36*).
3. Rotate and align the camera assembly yellow label with the skirt yellow label.
4. Secure the camera assembly to the skirt by pushing it into the skirt, then twisting it clockwise until it clicks securely in place.
5. Secure the camera assembly to the skirt by twisting it clockwise until it clicks securely in place.
6. Adjust the camera's field of view (see *Adjusting the Camera Field of View (FOV) on page 41*).
7. Install the turret by clicking it into place.



8. Install the bubble by placing it on the camera with the tabs to the left of the slots, then turning it clockwise until the tabs click securely into place.

Flush Mount (with or without 4S box)

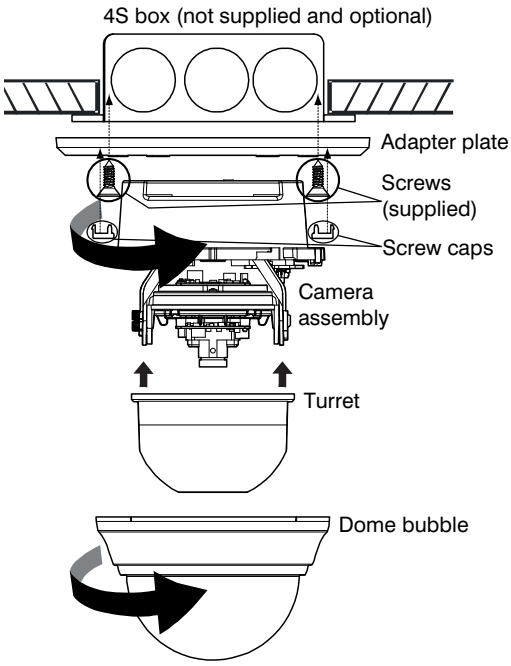
1. Use the screws (not supplied) to connect the adapter plate directly to the ceiling or wall.

   Or

   Use your own screws to connect the adapter plate to the 4S box (not supplied) which is attached to the ceiling or wall.

Note You must use screws that are able to support at least three times the weight of the camera.

2. Connect the wires (see *Connecting the Wires, page 36*).
3. Secure the camera assembly to the adapter plate by twisting clockwise until it clicks securely in place.
4. Adjust the camera's field of view (see *Adjusting the Camera Field of View (FOV) on page 41*).
5. Install the turret by clicking it into place.
6. Install the dome bubble by placing it on the camera with the tabs to the left of the slots, then turning it clockwise until the tabs click securely into place.



Note Installation with 4S box shown

Restore Factory Defaults

Your 3-inch minidome camera has a Factory Reset switch located inside the camera (see *Figure 3-10* on *page 39*). This switch restores your camera settings and passwords to their default settings. Press and hold the **Reset** switch for five seconds. This will reset the factory-configured parameters such as the compression settings, the camera tamper detection settings, and the Video Motion Detection settings. This will not impact network IP address configurations.

Adjusting the Camera Field of View (FOV)

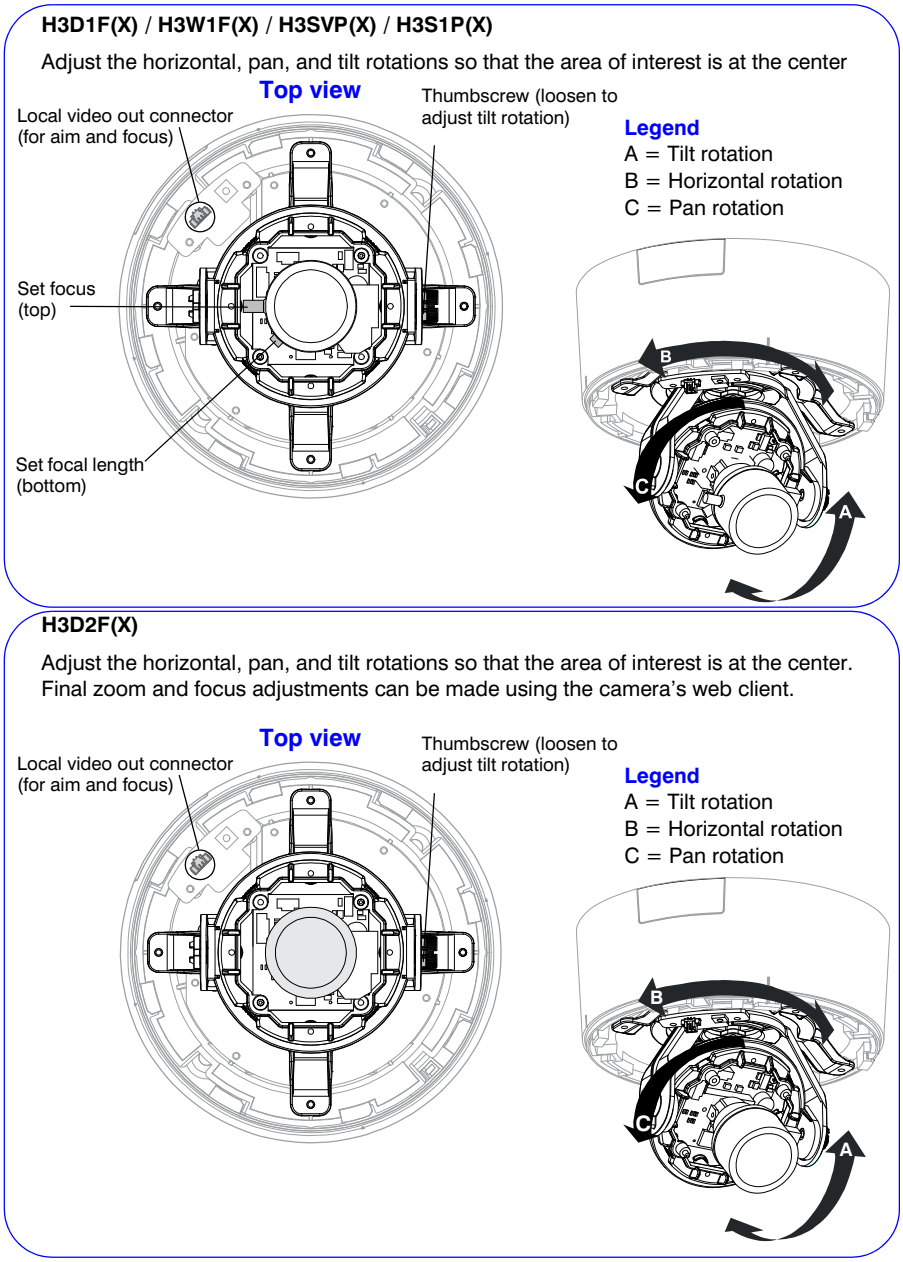
To adjust your 3-inch minidome camera:

1. Verify that power is supplied to your camera.

Note If your installation involves a 24 V AC power source, then please wait approximately 60 seconds after connecting to a power source for video to appear on the local video out.

2. Connect the supplied video cable to the local video out connector to view the video signal on a standard monitor (see *Figure 3-11*) below to connect a local video monitor).
3. Loosen the setscrew that locks the gimbal assembly in place (see *Figure 3-11*), and adjust the camera to the desired view.

Figure 3-11 Camera Adjustment - Lens Adjustment and Gimbal Rotation


H3D1F(X) / H3W1F(X) / H3SVP(X) / H3S1P(X)
Adjust the horizontal, pan, and tilt rotations so that the area of interest is at the center
Top view
Local video out connector (for aim and focus)
Thumbscrew (loosen to adjust tilt rotation)
Set focus (top)
Set focal length (bottom)
Legend
A = Tilt rotation
B = Horizontal rotation
C = Pan rotation
B
C
A
H3D2F(X)
Adjust the horizontal, pan, and tilt rotations so that the area of interest is at the center. Final zoom and focus adjustments can be made using the camera's web client.
Top view
Local video out connector (for aim and focus)
Thumbscrew (loosen to adjust tilt rotation)
Legend
A = Tilt rotation
B = Horizontal rotation
C = Pan rotation
B
C
A

4. Re-tighten the locking screw to lock the gimbal assembly in place.

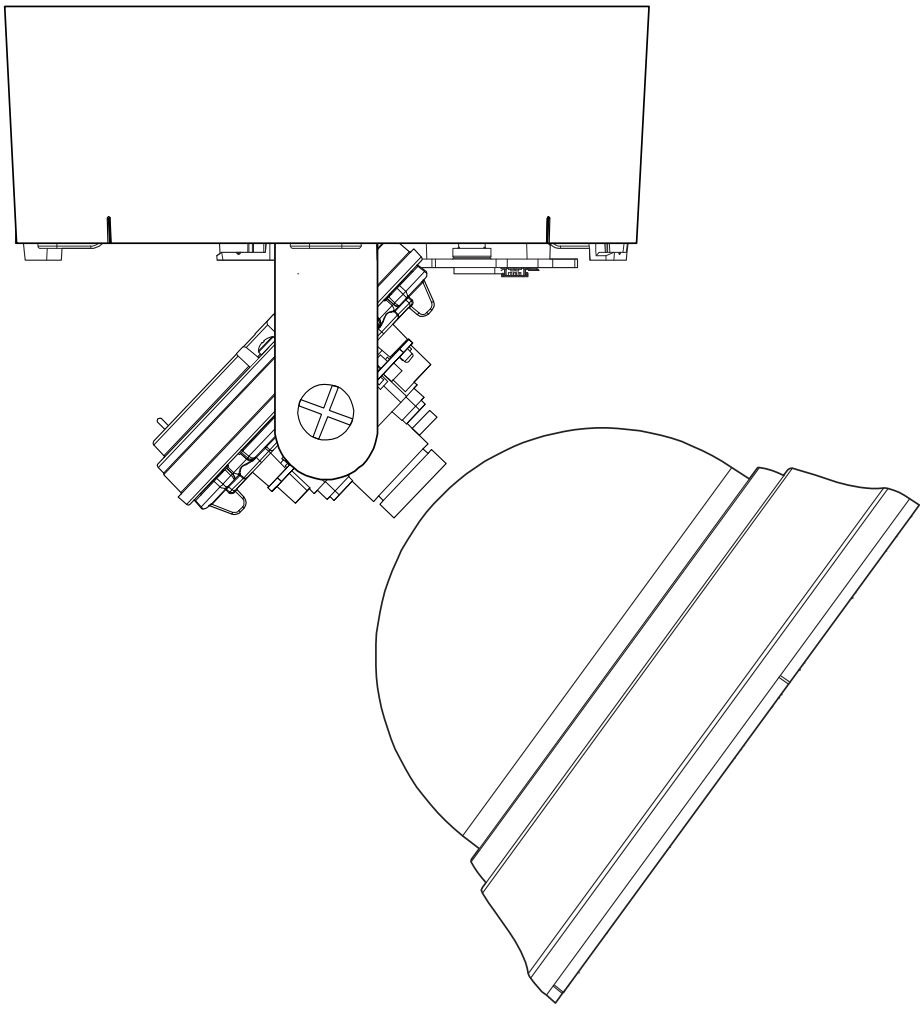
CAUTION **Adjust the camera field of view only by moving the gimbal. Do not move the camera lens to adjust the camera field of view as this might result in irreparable damage.**

Adjusting the Lens Focus

Lenses are pre-focused at the factory. They might require a final adjustment after installation because the optical effect of the dome bubble might cause a slight defocusing of the lens.

TECH TIP! To check the focus, hold the dome bubble over the lens while making any adjustments.

Figure 3-12 Holding the 3-inch Minidome Camera Dome Bubble in Front of the Lens



To adjust the camera direction, view angle, and focus, connect the local video out to the video monitor using the supplied BNC video cable.

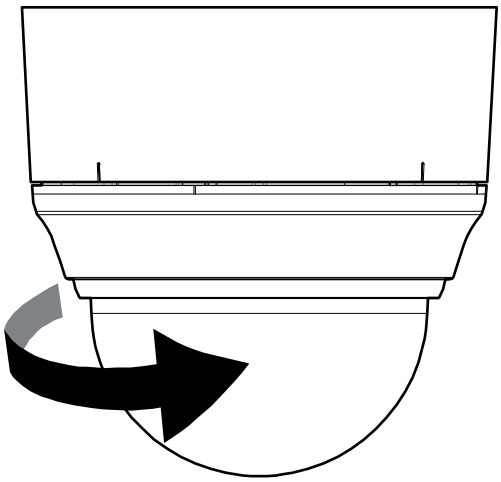
Note For your H3D2F camera, final zoom and focus adjustments can be made using the camera's web client. See *Zoom & Focus (H3D2F(X) and H4D2F(X) models only) on page 110*.

Securing the Enclosure Cover

Install the dome bubble when you have set up your camera and completed the network connections (see *Chapter 5, Installing the Honeywell IP Utility*).

Place the enclosure cover on the camera with the tabs to the left of the slots, then turn it clockwise until the tabs click securely into place.

Figure 3-13 Installing the Enclosure Cover



4

Installing a 4-Inch Minidome Camera

This chapter describes how to:

- Mount a 4-inch minidome camera
- Adjust a 4-inch minidome camera for the clearest image
- Set up a 4-inch minidome camera in a network system

4-inch Minidome Camera Models

This chapter applies to the following ONVIF cameras:

- H4D2F(X)
- H4D1F(X)
- H4S1P(X)
- H4SVP(X)
- H4W1F(X)

Before you Begin

Before you install your 4-inch minidome camera:

- Please read this guide carefully. Keep this guide for future reference.
- Before installing the camera, Honeywell recommends that you download the latest software updates. Go to *www.honeywellvideo.com/support/ download-center/index.html* and follow the instructions on the page to logon, find your camera, and then download the latest software updates.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

Unpack Everything

Check that the items received match those listed on the order form and packing slip. Your 4-inch minidome camera packing box should include, in addition to a Quick Install Guide:

- One fully-assembled 4-inch minidome camera
- One HD4 series camera hardware kit
- One bag containing mounting screws, and the green power and audio/alarm connectors
- One mounting template
- One product warranty
- One DVD containing the software, and the Quick Install and User Guides

If any parts are missing or damaged, contact the dealer you purchased the camera from or call Honeywell Customer Service (see *Warranty and Service on page 6*).

Equipment Required

The following tools might help you to complete the installation:

- Drill
- Screwdrivers
- Wire cutters

Overview of the Installation Procedure

Note Please familiarize yourself with the installation procedure and complete each step in the exact sequence given.

The initial installation of your 4-inch minidome camera consists of the following steps:

Table 4-7 Steps for Installing Your 4-inch Minidome Camera

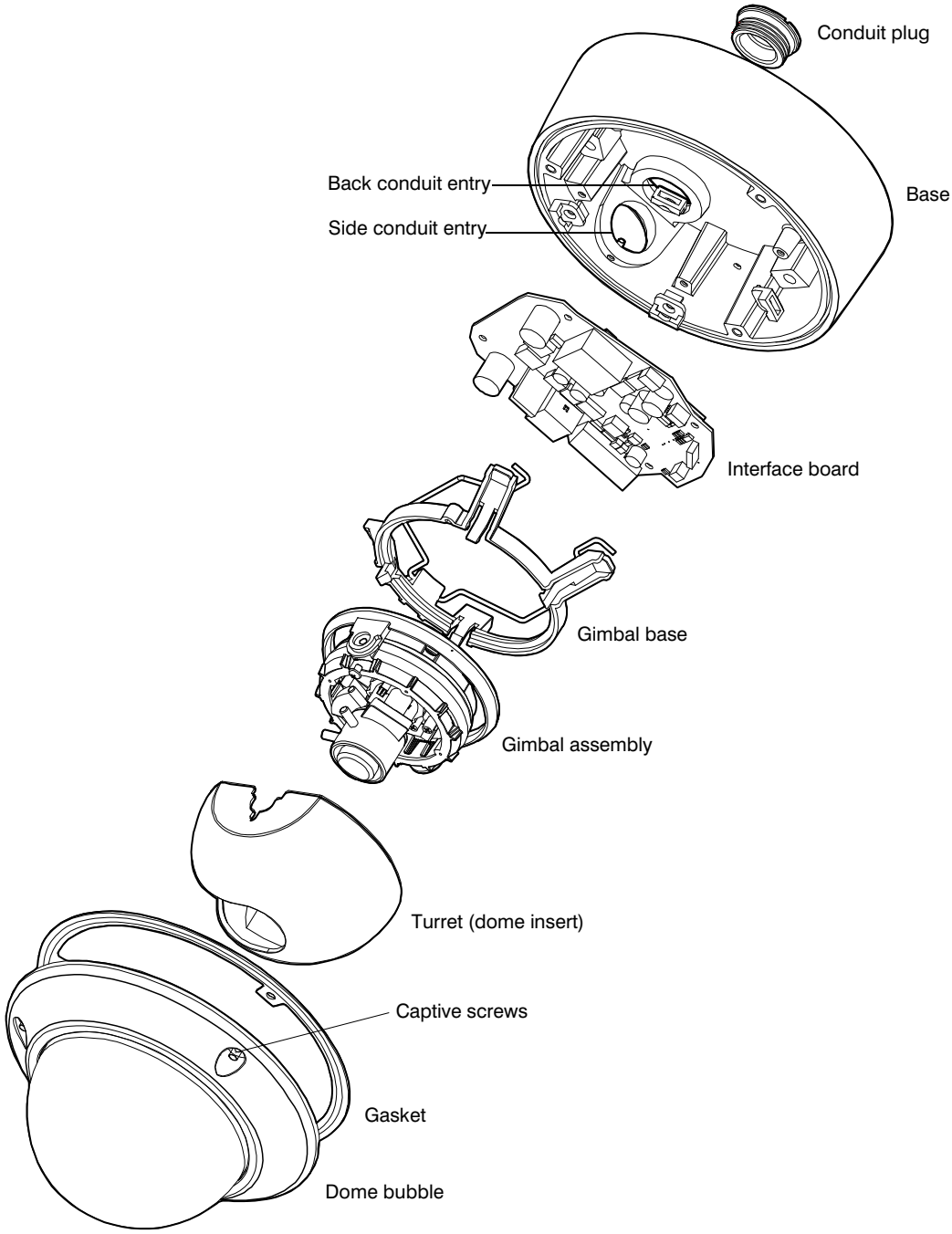
Step		See …
1	Remove the dome bubble and the turret.	*Step 1. Removing the Dome Bubble and Turret, page 49*
2	Remove the gimbal.	*Step 2. Removing the Gimbal, page 49*
3	Prepare the mounting surface.	*Step 3. Preparing the Mounting Surface, page 50*

Step		See …
4	Install the conduit plug.	*Step 4. Installing the Conduit Plug, page 50*
5	Install the grommet (if required).	*Step 5. Installing the Grommet (optional), page 51*
6	Mount the camera.	*Step 6. Mounting the Camera, page 51*
7	Connect the wiring.	*Step 7. Connecting the Wiring, page 52*
8	Seal the wiring.	*Step 8. Sealing the Wiring, page 55*
9	Adjust the camera.	*Step 9. Adjusting the Camera, page 56*
10	Reinstall the dome bubble and turret.	*Step 10. Reinstalling the Turret and the Dome Bubble, page 59*

Camera Components and Functions

Your 4-inch minidome camera consists of a fully-integrated enclosure with camera and lens. The wiring can be completely concealed to reduce the risk of tampering.

Figure 4-14 4-inch Minidome Camera Components



Preparing for Camera Installation

Step 1. Removing the Dome Bubble and Turret

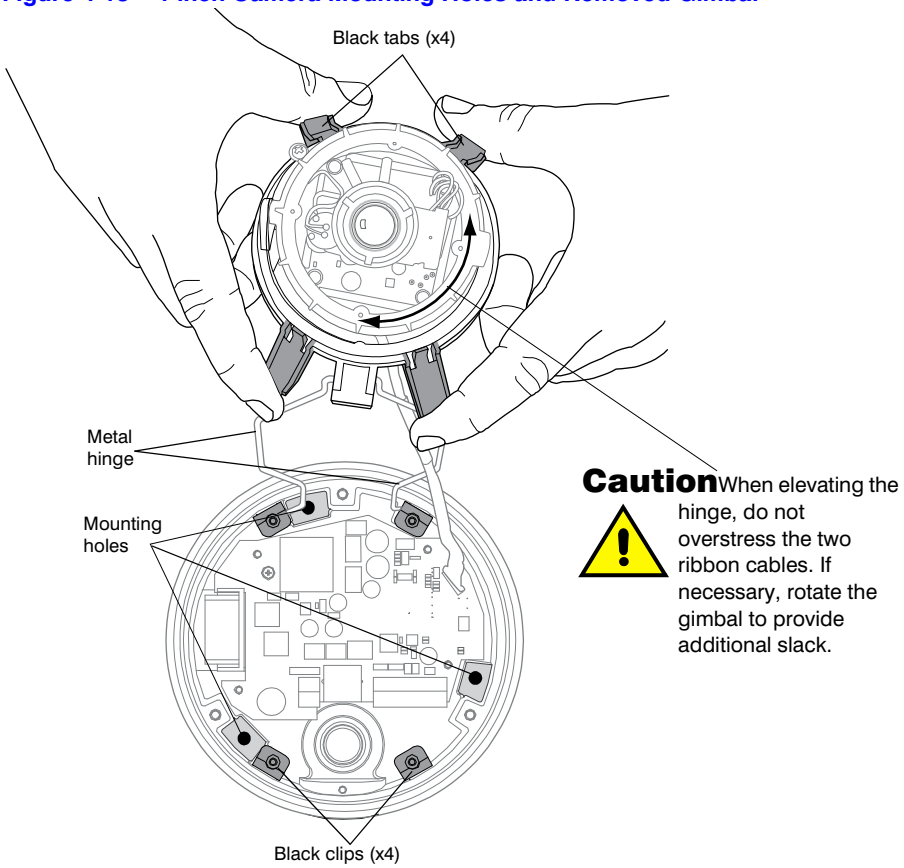
1. Using the supplied Allen key, loosen the captive screws on the dome bubble (see *Figure 4-14* on *page 48*). Remove the dome bubble and set it aside.
2. Gently pull the turret off the gimbal assembly, then set it aside.

Step 2. Removing the Gimbal

To gain better access to the mounting holes and the wiring board, remove the gimbal from the enclosure base.

1. Squeeze the 4 black tabs until they are free of the black clips.
2. Elevate the hinge until the gimbal is above the housing and you have access to the camera board connections and mounting holes.

Figure 4-15 4-inch Camera Mounting Holes and Removed Gimbal

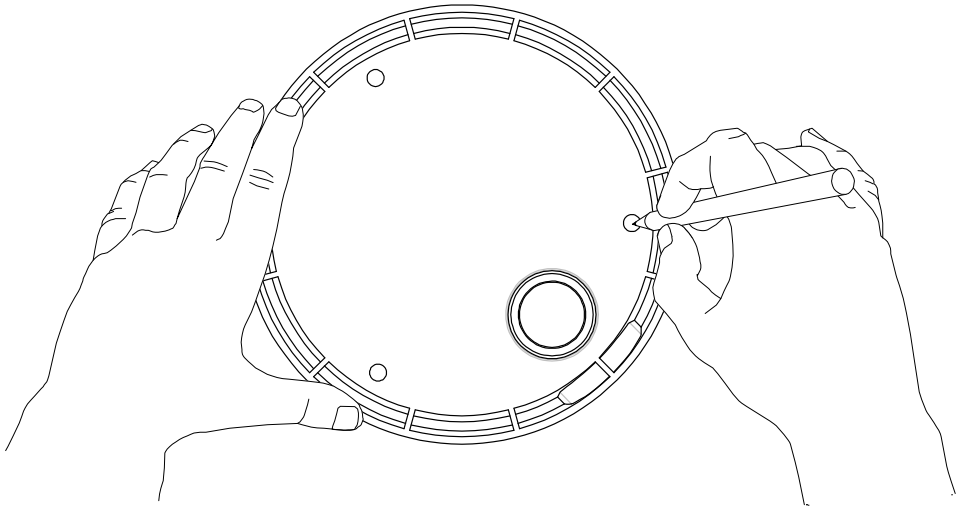

Black tabs (x4)
Metal hinge
Mounting holes
Black clips (x4)
Caution
When elevating the hinge, do not overstress the two ribbon cables. If necessary, rotate the gimbal to provide additional slack.

Step 3. Preparing the Mounting Surface

1. Affix the mounting template (supplied in the camera box) to the mounting surface or use the back of the camera base, as shown below, to trace the screw holes.

Note The housing is intended for mounting on a flat surface only.

Figure 4-16 Tracing the Camera Base



Note To prevent moisture from entering the housing, position the enclosure with the side conduit entry pointing down if you are mounting the camera on a wall or other vertical surface.

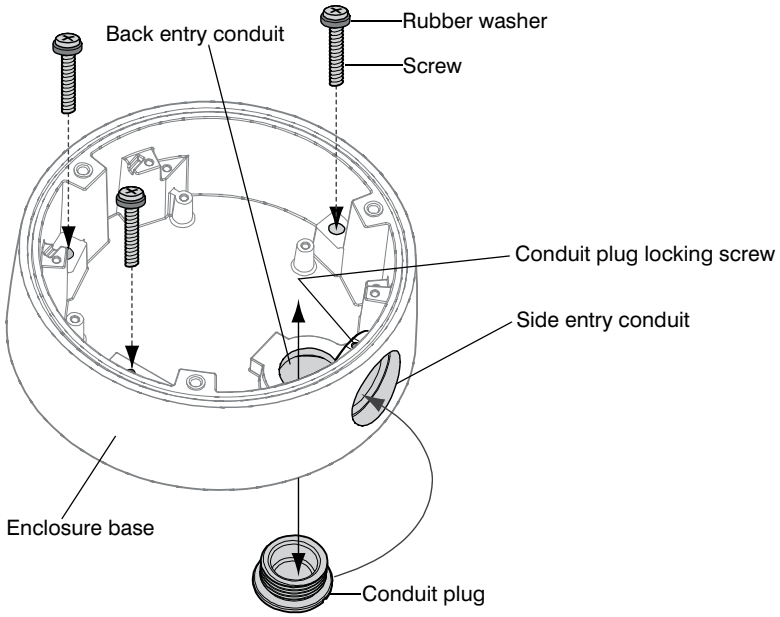
2. Pre-drill three holes as indicated on the template, using the recommended hole size for the screws being used.
3. Drill out the conduit hole, if required (see *Step 4. Installing the Conduit Plug on page 50*).

Note Alternate fasteners (preferably stainless steel) can be used, provided they are not larger than the screw holes on the mounting template.

Step 4. Installing the Conduit Plug

Your camera enclosure base comes with a conduit plug pre-installed in the 3/4 inch conduit entry on the back. To use the back conduit entry, remove the conduit plug and install it in the side conduit entry after loosening the locking screw (see *Figure 4-17*). Retighten the locking screw to secure the conduit plug in place.

Figure 4-17 Conduit Plug Installation



WARNING To minimize moisture leaking into the camera housing when mounting your camera on a vertical surface, position the enclosure with the side conduit entry pointing down. After feeding the cables through (*Step 7. Connecting the Wiring on page 52*), apply an appropriate sealant around the conduit connection.

Step 5. Installing the Grommet (optional)

If a conduit is not used for cable routing, install the rubber grommet in the conduit hole (in the camera base), then slit the grommet and feed the cables through (see *Step 7. Connecting the Wiring on page 52*). Use the appropriate sealant to seal the grommet to prevent moisture from entering the housing.

Installing the Camera

Step 6. Mounting the Camera

1. Pull the wires through the back conduit entry if that is the entry you are using.

2. Align the mounting holes in the base with the holes you have predrilled in the mounting surface, then secure the camera to a wall or ceiling using the supplied screws (see *Step 3. Preparing the Mounting Surface on page 50*).

   If you are using screws other than those supplied by Honeywell, then please remove the rubber washers from the Honeywell-supplied screws, and then install them under the head of each of your screws. See *Figure 4-17* on *page 51*.

Note To prevent moisture from entering the housing, ensure that the gasket is flush against the back of the camera enclosure and is not pinched.

Step 7. Connecting the Wiring

CAUTION When connecting to a power supply, use either a 24 V AC power plug or use a PoE IEEE 802.3af (Power over Ethernet) compatible hub.

CAUTION The use of a CSA Certified/UL Listed Class 2 power supply is required to ensure compliance with electrical safety standards

Note Check the power source from the external power supply before applying power to the camera.

Connect to Power Input

CAUTION When powering the camera from 24 V AC, a UPS source should be used to ensure satisfactory performance.

Connect the power supply that is appropriate for your installation:

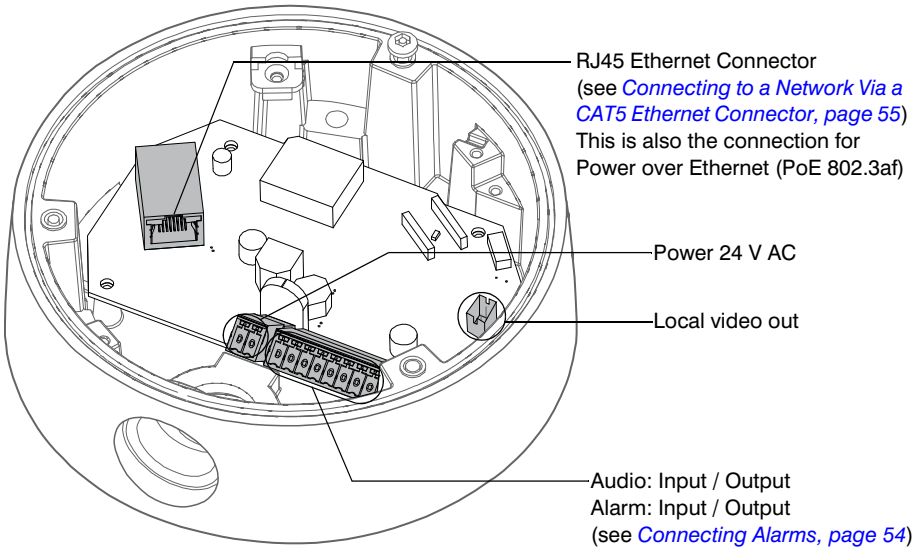
- 24 V AC power supply
- Power over Ethernet (IEEE 802.3 af) 48 V DC power supply

Note Connect power either from a 24 V AC source or CAT5 Ethernet connector (PoE). It is not recommended to connect both power sources at the same time.

Note If you are using PoE (802.3af), power will automatically be supplied to the camera through the network cable.

1. Connect to the power supply (see *Figure 4-18* on *page 53*). Locate the two-pin green connector that was shipped with your camera and make the necessary connections.
2. Plug the power supply into an appropriate power source. The LED on the RJ45 jack illuminates to show that the camera is receiving power. If it does not illuminate, check the terminal block connections and the power source.

Figure 4-18 Wiring Connections Shown on the Camera Board


RJ45 Ethernet Connector
(see Connecting to a Network Via a CAT5 Ethernet Connector, page 55)
This is also the connection for
Power over Ethernet (PoE 802.3af)
Power 24 V AC
Local video out
Audio: Input / Output
Alarm: Input / Output
(see Connecting Alarms, page 54)

Note H4SVP and H4S1P cameras do not support alarms or audio.

CAUTION **For secure installations, surface-mounted cables should be protected by plastic or metal cable covers.**

CAUTION **Installation must be performed by a qualified electrician. The power wire size for the distance and the number of cameras must be determined to maintain 24 V AC at each camera.**

Note Connect power either from a 24 V AC source or a CAT5 Ethernet connector (PoE). It is not recommended to connect both power sources at the same time.

Connecting Audio and Alarms

Note H4SVP and H4S1P cameras do not support alarms and audio.

Locate the eight-pin green connector that was shipped with your camera and make all the necessary connections.

Figure 4-19 Audio and Alarm PINs

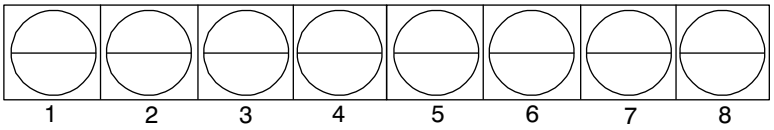


Table 4-8 Audio and Alarm Connector PIN Definitions

Table 3-2

PIN	Definition
1	Audio In +
2	Audio In -
3	Audio Out +
4	Audio Out -
5	Alarm In +
6	Alarm In -
7	Alarm Out +
8	Alarm Out -

Connecting Audio

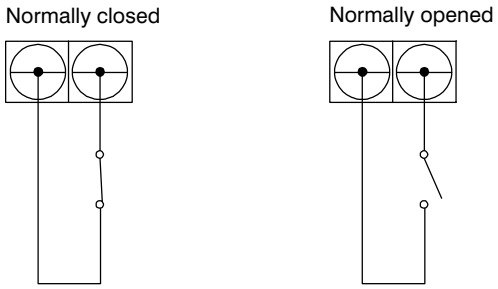
Your camera supports bi-directional audio. There are two supported voice band channels that function in full duplex mode. The camera can transmit audio from the camera to the client (PC) using any audio source that provides an industry standard line level input (see the terminal strip as depicted in *Figure 4-19*). The camera can also receive audio from the client (PC) and provide an industry standard line level output (3.5 mm stereo or mono jack) suitable to connect to audio devices. Audio input and output have 600 Ohm impedance. See *Configuring Audio Settings on page 112* to configure audio options.

Connecting Alarms

WARNING Do not exceed the maximum rating of 12 V DC, 0.5 A on alarm output connections.

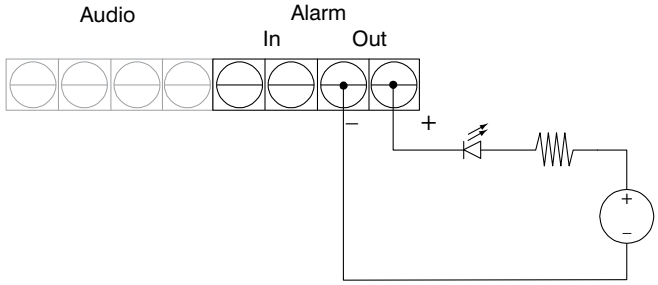
Your camera has one alarm input and one alarm output. Connect mechanical or electrical switches to the alarm input connection to allow event-triggered recording. When alarm inputs are configured, the camera triggers an alarm only when the normal alarm state (open or closed) changes (see *Figure 4-20*). See *Configuring Alarms on page 113* to configure the alarm inputs.

Figure 4-20 Normal Alarm States



Connect external devices such as sirens or flashing lights to the alarm output connector to signal users that an alarm is activated. See *Figure 4-21* for alarm connection.

Figure 4-21 Alarm Connections



The alarm output can be configured to provide normally open or normally closed contacts (see *Configuring Alarms on page 113* to configure the alarm output). Contacts will be rated for 12 V DC @ 0.5 A.

Connecting to a Network Via a CAT5 Ethernet Connector

The main video connection for your camera is made through the Ethernet network connection. Connect the CAT5 Ethernet connector (see *Wiring Connections Shown on the Camera Board on page 53*) to your network using an Ethernet (10Base T, 100Base TX) cable.

Note You can connect your camera to a network or connect it directly to a PC or laptop using a crossover cable between the camera and the PC or laptop.

Step 8. Sealing the Wiring

To prevent moisture from entering the housing, you should apply the appropriate sealant around the conduit entry and mounting screws.

Step 9. Adjusting the Camera

Connecting to a Video Monitor

The local video out connection (see *Figure 4-18*) is available as a test output and should be used during installation to position, aim, and focus the camera, as needed. Connect from the local video out connector on your camera to the video input connector on your spot monitor.

Adjust the Field of View (FOV)

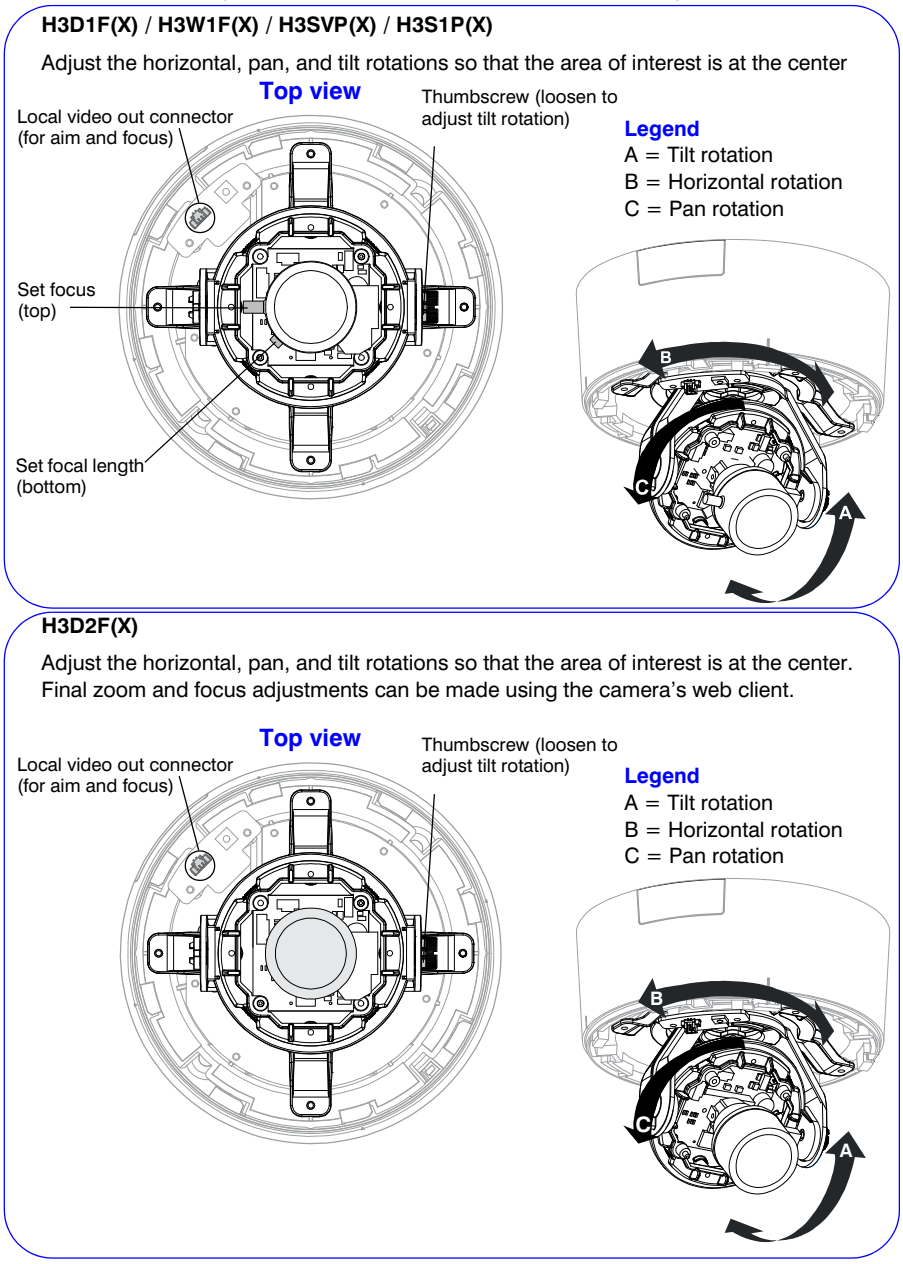
To adjust the your camera:

1. Verify that power is supplied to the camera.

Note If your installation involves a 24 V AC power source, then please wait approximately 60 seconds after connecting to a power source for video to appear on the local video out.

2. Reinstall the gimbal by inserting the black tabs into the black clips on the enclosure base.
3. Connect the supplied video cable to the local video out connector to view the video signal on a standard monitor (see *Figure 4-22*) for the location of the local video out connector).
4. Loosen the setscrew that locks the gimbal assembly in place (see *Figure 4-22*). and adjust the camera to the desired view.

Figure 4-22 Camera Adjustment - Lens Rotation and Gimbal Adjustment


H3D1F(X) / H3W1F(X) / H3SVP(X) / H3S1P(X)
Adjust the horizontal, pan, and tilt rotations so that the area of interest is at the center
Top view
Local video out connector (for aim and focus)
Thumbscrew (loosen to adjust tilt rotation)
Set focus (top)
Set focal length (bottom)
Legend
A = Tilt rotation
B = Horizontal rotation
C = Pan rotation
B
C
A
H3D2F(X)
Adjust the horizontal, pan, and tilt rotations so that the area of interest is at the center. Final zoom and focus adjustments can be made using the camera's web client.
Top view
Local video out connector (for aim and focus)
Thumbscrew (loosen to adjust tilt rotation)
Legend
A = Tilt rotation
B = Horizontal rotation
C = Pan rotation
B
C
A

5. Re-tighten the locking screw to lock the gimbal assembly in place.

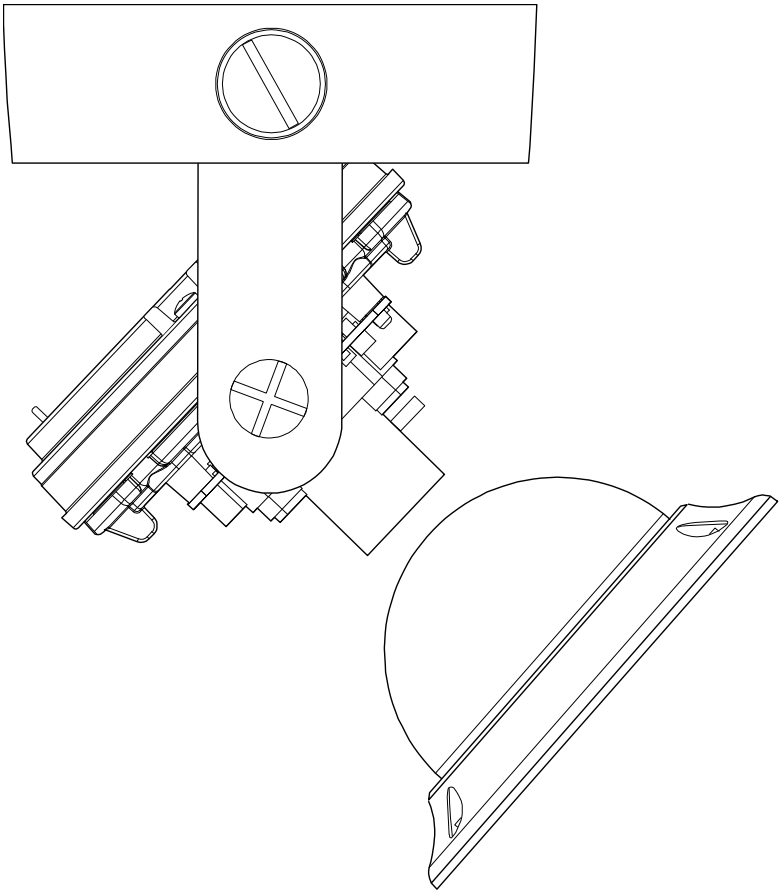
CAUTION **Adjust the camera field of view only by moving the gimbal. Do not move the camera lens to adjust the camera field of view as this might result in irreparable damage.**

Adjusting the Lens Focus

Lenses are pre-focused at the factory. They might require a final adjustment after installation in the unlikely event the optical effect of the dome bubble causes a slight defocusing of the lens.

TECH TIP! To check the focus, hold the dome bubble over the lens while making any adjustments.

Figure 4-23 Holding the 4-inch Minidome Camera Dome Bubble in Front of the Lens



Note For your H4D2F(X) camera, final zoom and focus adjustments can be made using the camera's web client. See *Zoom & Focus (H3D2F(X) and H4D2F(X) models only) on page 110*.

Restoring Factory Defaults

Your camera has a Factory Reset button located inside the camera (see *Figure 4-22*). Use this button to restore your camera options and passwords to their default settings. Use a pin or straightened paper clip to press and hold the Reset button for five seconds.

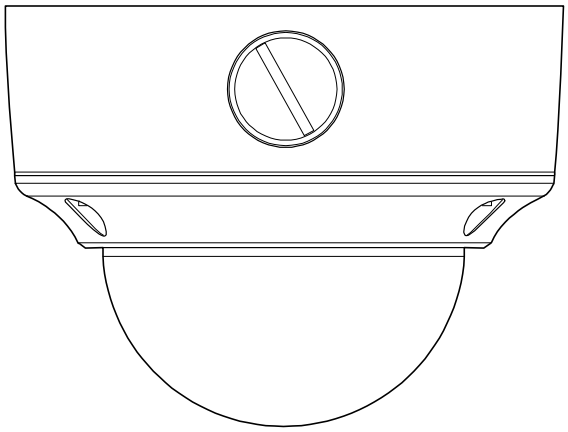
Completing the Installation

Step 10. Reinstalling the Turret and the Dome Bubble

When you have set up your camera and completed the network connections:

1. Align the turret on the gimbal assembly, then gently press the turret until in clicks securely into place.
2. Align the dome bubble captive screws with the mounting holes in the enclosure base, then securely screw them into place.

Figure 4-24 Reassembled 4-inch Minidome Camera



5

Installing the Honeywell IP Utility

This chapter describes how to:

- Connect to a device and configure network settings using the IP Utility
- Launch the web client software
- Uninstall the IP Utility or Bonjour

About the Honeywell IP Utility

The Honeywell IP Utility is a software application that is installed from a DVD or downloaded from the Honeywell Systems Group website (**http://www.honeywellsystems.com/support/download-center/index.html**). It is installed on a local workstation used to configure the equIP Series and Performance series of products residing on an IP network.

The IP Utility enables users to:

- Discover devices on a network
- Configure the IP network settings, name devices, upgrade firmware, change passwords for the discovered devices.
- Open individual Microsoft IE web client applications for each discovered device.

Updating the Honeywell IP Utility

Honeywell recommends that you regularly check the Honeywell website for the latest available software updates.
Go to **www.honeywellsystems.com/support/download-center/index.html** and follow the instructions on the page to logon, find your camera, and then download the software updates.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

Note Before installing and using the Honeywell IP Utility, confirm that your device is connected to the network through an Ethernet cable (see the **Connecting the Wiring** section of your Quick Install Guide).

Step 1: Confirm Your System Requirements

Note Windows administrator privileges are required to install the Honeywell IP Utility and associated software.

Note Contact the network administrator if there are any questions regarding the local area network (LAN) or any other network-related issues.

Install the Honeywell IP Utility on a work station with the minimum requirements (see *Table 5-9*).

Table 5-9 PC Minimum System Requirements

Component	Requirement
Operating System	Windows XP SP3 Windows 2003 Server R2 32-bit Windows 7 (32/64-bit) Windows Vista SP1 Windows 2008 Server R2 64-bit
Processor	Intel® Pentium® IV, 3.1 GHz or faster
RAM	1 GB RAM (32-bit) or 2 GB RAM (64-bit)

Table 5-10 Items Installed On Your System

Item	Function
Honeywell IP Utility software	To enable use of the web client to configure cameras and view live video.
Bonjour software	To discover cameras on the network.

Step 2: Install the Honeywell IP Utility Software

1. Close all other applications that might be open on your computer.

Note It is recommended that you disable any Norton AntiVirus software that might be running on the workstation.

2. Open the **Honeywell IP Utility InstallShield Wizard**.

Method 1: DVD

Insert the DVD into the DVD-ROM drive.

Note If InstallShield does not open automatically, navigate to [***DVD drive]*\Honeywell IP Utility\Honeywell IP Utility Setup.exe.** Double-click on the file to launch the program.

Method 2: Website

a. Navigate to **www.honeywellsystems.com/support/download-center/index.html.**

b. Follow the instructions on the page to log on and find your camera.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

c. Under Honeywell IP Utility, download, extract, and open the **Honeywell IP Utility Setup.exe** icon from where you extracted the file.

3. When the **Honeywell IP Utility InstallShield Wizard** opens, follow the instructions. After the installation is complete, a **Honeywell IP Utility** icon displays on the desktop.

Step 3: Start the IP Utility and Discover Network Devices

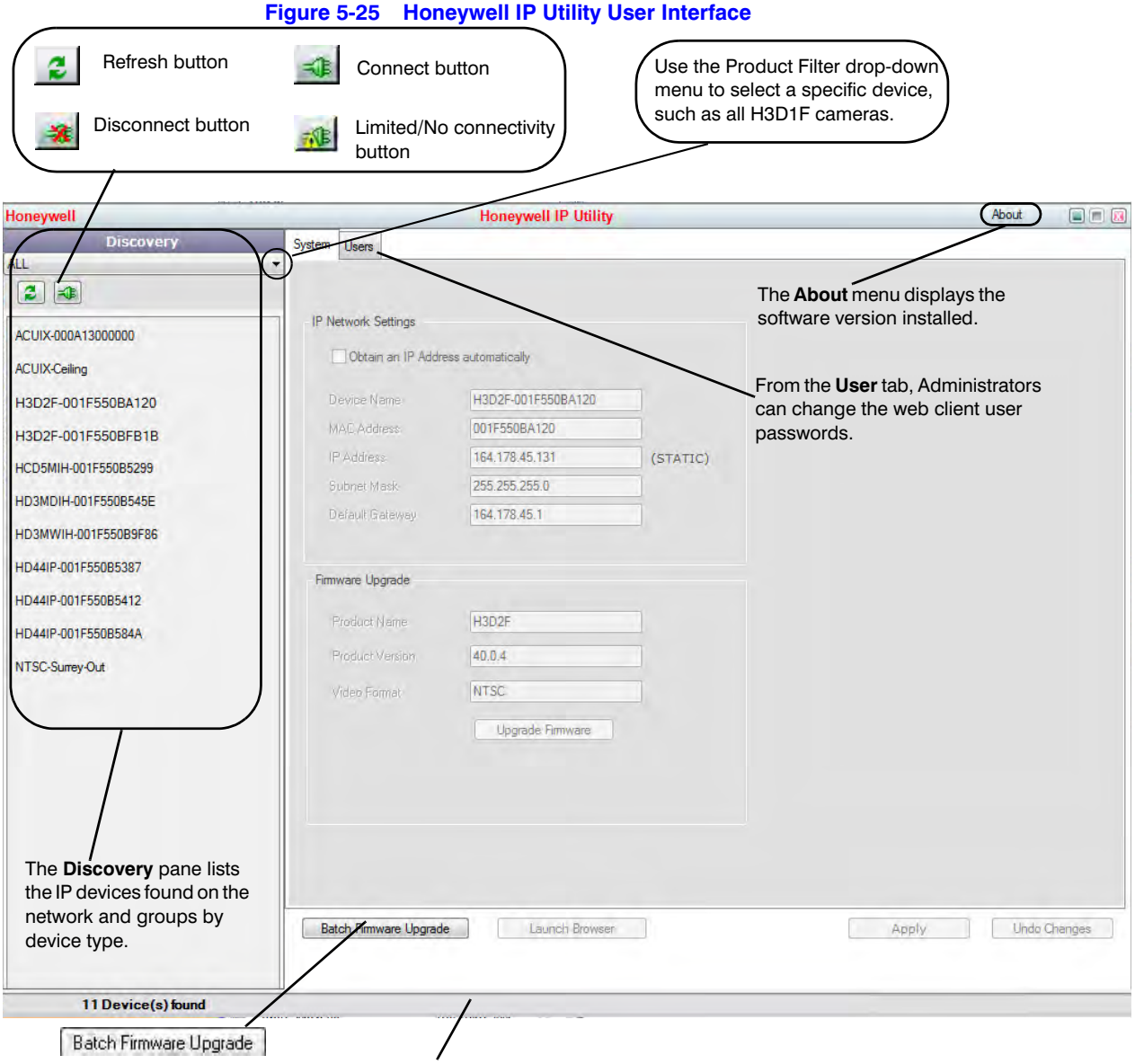
1. Double-click the **Honeywell IP Utility** icon on your desktop.

-OR-

Click **Start ➤ Programs ➤ Honeywell Video Systems ➤ IP Utility ➤ Honeywell IP Utility**.

The **Honeywell IP Utility** user interface window opens to search for devices on the network.

Figure 5-25 Honeywell IP Utility User Interface



2. Automatically discover or manually refresh the list of devices on the network.
   Use the manual refresh if a new device was added after you logged onto the system.
   - You do not need to do anything to discover devices. When you log on to the IP Utility, the devices on the network — including the devices on other subnets — are automatically discovered and alphanumerically listed in the Discovery pane. After the initial discovery, the network automatically continues to discover devices that are newly added to the network.
   - To manually refresh the device list, click the **Refresh** ( ) button, located near the top of the Discovery pane.

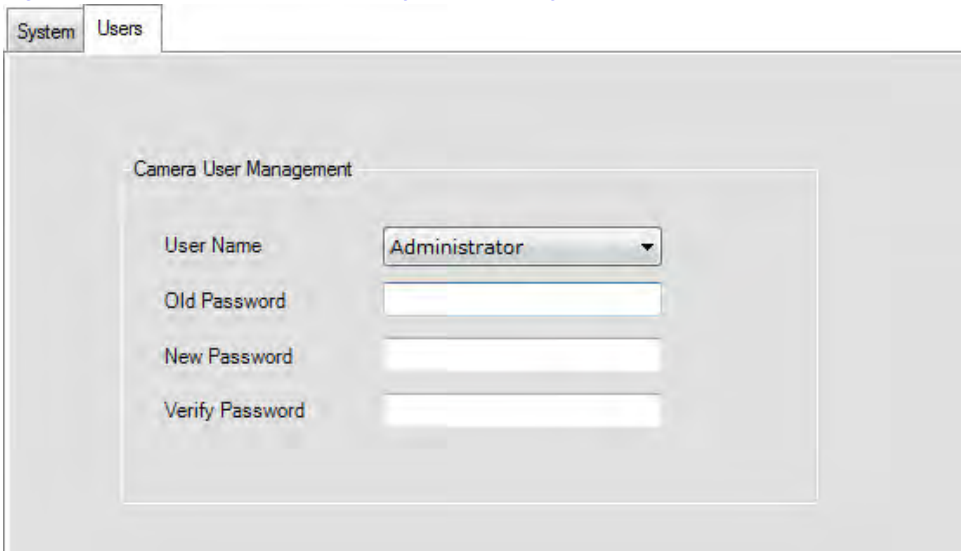
Note All examples in this User Guide show the GUI for the **H3D2F** model camera, unless otherwise specified.

Changing the Camera Passwords

In the Honeywell IP Utility interface, you can change the camera's Administrator or Guest passwords.

1. Click **User** to open the User tab.

Figure 5-26 User Tab on the Honeywell IP Utility Interface



2. Select **Administrator** or **Guest** from the **User Name** drop-down menu.
3. Enter the old password.
4. Enter the new password, then verify it.
5. Click **Apply** to save the changes.

Step 4: Connect to a Device and Configure Network Settings

When you log on to the IP Utility, the devices on the network—including the devices on other subnets—are automatically discovered and are listed in the **Discovery** pane. After the initial discovery, auto-refresh continues to discover devices that are newly added to the network.

You can also manually refresh the device discovery by clicking the **Discovery** icon ( ), located near the top of the Discovery pane.

Connecting to or Disconnecting From Devices

Before configuring the IP network settings, you must connect to the IP device.

Connecting to a Device

When connecting to an ONVIF camera in the IP utility for the first time, the ONVIF Camera Credentials login window appears.

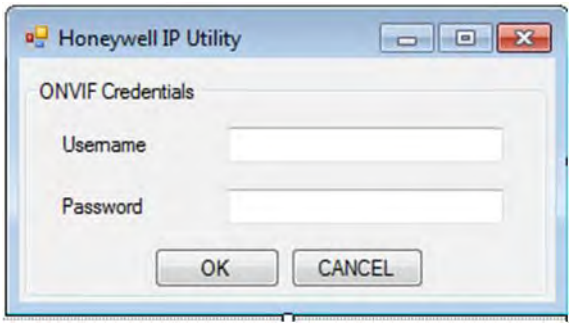
1. Connect to a device by either:
   - In the **Discovery** pane, double-clicking the device to which you want to connect.

   -OR-

   - In the **Discovery** pane, selecting the device and then clicking the **Connect** button.

   The ONVIF Camera Credentials login window appears.

   Figure 5-27 ONVIF Camera Credentials Login Window

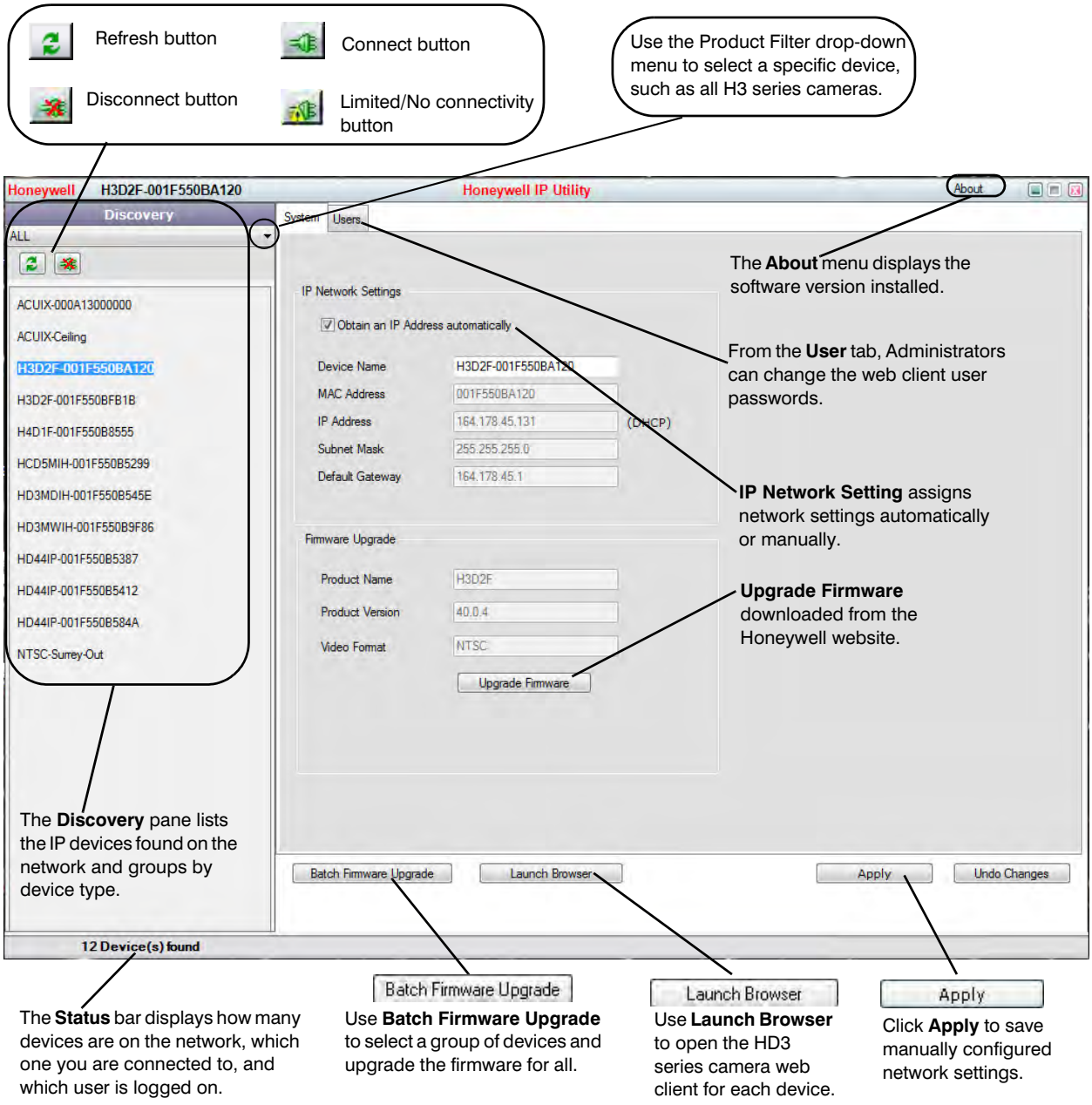
   

2. Enter your **Username** and **Password**, then click **Login**.

   The default password is **1234** for admin and **guest** for guest.

   The IP Network Settings (including the Device Name) and Firmware information automatically appear.

Figure 5-28 Honeywell IP Utility User Interface



Disconnecting from a Device

In the **Discovery** pane, select the device and click **Disconnect** .

Note If you disconnect the device without saving configuration details, a warning dialog box displays. Click **Yes** to save and disconnect, or click **Cancel** to discard the changes and disconnect the device.

Configuring the IP Network Settings Automatically or Manually

Note When you see the **Limited/No connectivity** button, you cannot fully connect to the device because the discovered device is on a different subnet from your PC. Check your network settings for both the device and your PC to resolve this issue. Consult your network administrator for additional support.

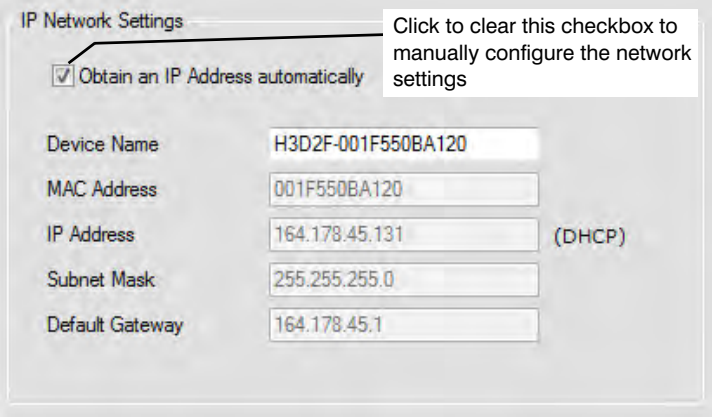
The IP network setting details, such as device name, IP address, and subnet mask, can be configured for each connected device either automatically or manually.

Note It is important to click **Apply** to save any configuration change.

Table 5-11 IP Network Device Setting Options

Option	Description
Device Name	By default, the device name is the device type plus the MAC Address. Honeywell recommends, for security, that you change the device name.
MAC Address	The MAC address is a factory-assigned address that is unique for each device.
IP Address	The IP address of the device on the network.The camera obtains an IP address by static or dynamic (automatic) means. There are two ways: Dynamic (DHCP/APIPA), which is automatically assigned by the network administrator, or Static (static), which is assigned by the user.
Subnet Mask	The subnet mask, or netmask, value of the device on the network. IP networks can be divided into several smaller networks by subnetting. When a network is subnetted, you must specify a subnet mask, which tells network devices to which smaller network they belong. **Note** If the subnet mask is not properly configured, the camera might not be able to communicate with other devices on the network.
Default Gateway	The default gateway address that connects the device to the network. Enter the host IP address to use as a gateway between networks. The gateway allows communication between devices that are on different networks. Without a correct gateway setting, the camera cannot receive or transmit data from or to devices that are not in the same network address range.

Figure 5-29 Set the IP Network Settings Automatically or Manually



Updating IP Network Settings Automatically

1. In the **Discovery** pane, select the device and click **Connect** .
2. From the **System** tab, click the **Obtain an IP Address automatically** check box.
3. Enter a **Device Name.** For example, *FrontLobbyDome01*.
4. Click **Apply**.

   The network automatically assigns the IP Address based on the DHCP network server details. **If no DHCP server is present on the network, the camera defaults to an APIPA address (169.254.x.x).**

Updating IP Network Settings Manually

CAUTION When manually updating the network settings, it is important to enter the correct IP network settings before applying them. Incorrect values might cause a failure when connecting to the device. See *Table 5-11* for definitions of each setting.

1. In the **Discovery** pane, select the device, then click **Connect** .
2. To assign a static IP address to the device, from the **System** tab click to clear the **Obtain an IP Address automatically** check box.
3. Enter a **Device Name**. For example, *FrontLobby01*.

Note The MAC address is a factory-assigned address that is unique for each device.

4. Enter an **IP Address** of the device on the network.

Note The address must be in the same address range. For example, if the PC is 192.168.1.xx, then the device should be set to a similar address, for example 192.168.1.xy.

5. Enter the device **Subnet Mask** value. A value is required.
6. Enter a default **Gateway Address** that connects the device to the static network. A value is required.
7. Click **Apply**.
   The network settings are updated and a message displays in the status bar to confirm the update.

Interfacing with the ONVIF IP Device Via a Network Video Recorder

Your camera features ONVIF support and open API for software integration. Refer to *www.onvif.org* for the ONVIF specification and the Honeywell Open Technology Alliance at *http://www.security.honeywell.com/hota/* to learn more about our open and integrated solutions. There is no support for legacy equIP and equIP2 protocols.

For further information, refer to the documentation supplied with your NVR or contact your NVR network administrator.

Step 5: Launch the Web Client to View Live Video

Note It is important to click **Apply** in order to save any configuration change.

1. Log onto the web client. There are two ways to launch the web client and log on— via the Honeywell IP Utility Program for Microsoft IE or directly from Internet Explorer, Google Chrome, and Mozilla Firefox.

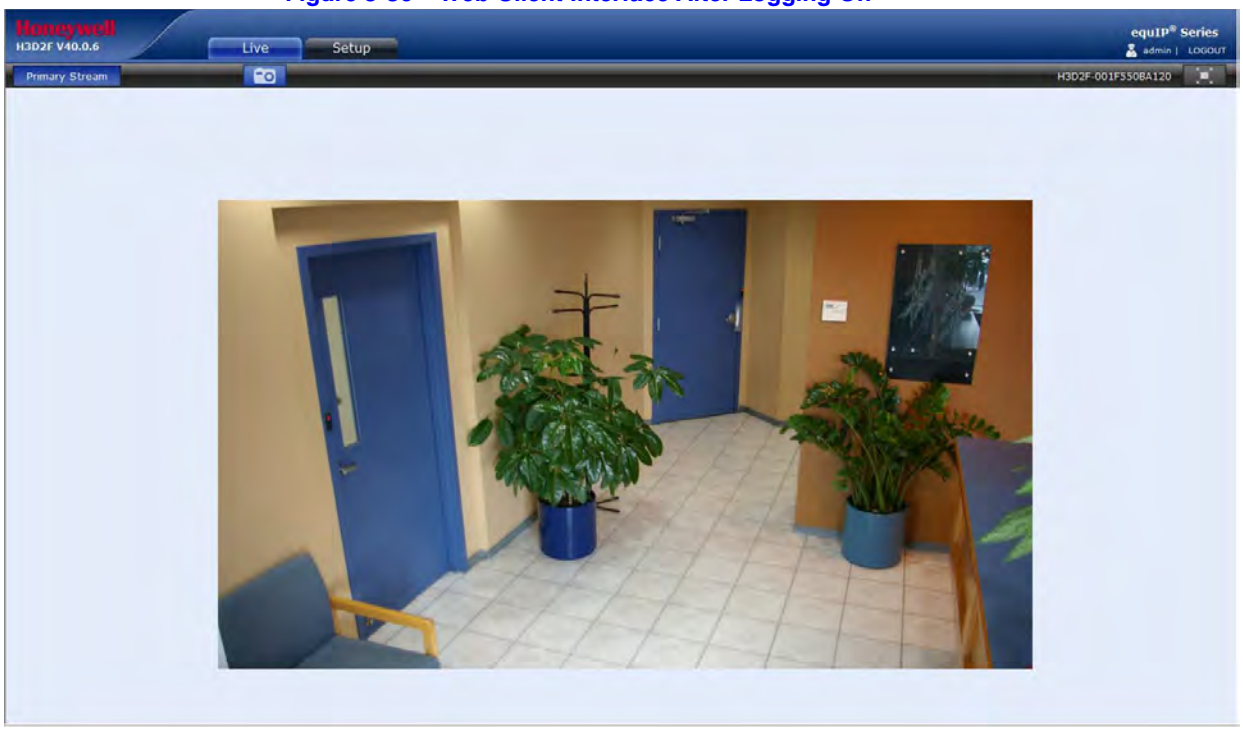
   Honeywell IP Utility

   a. Log onto the Honeywell IP Utility program.
   b. From the **Discovery** pane, click to select the device to launch its browser.
   c. From the **System** tab, click **Launch Browser**.
      The web client application for the selected device opens in Internet Explorer.

   Internet Explorer

   Please see *Logging Onto the Camera Web Client through a Browser on page 88* for information on viewing live video directly through Microsoft IE, Google Chrome, and Mozilla Firefox.

Figure 5-30 Web Client Interface After Logging On



Uninstalling the IP Utility or the Bonjour Software

You can uninstall the IP Utility or Bonjour software using:

- The **Start** menu to uninstall IP Utility and Bonjour

  OR

- The **Control Panel** to uninstall IP Utility or Bonjour.

Uninstalling IP Utility Using the Start Menu

1. Click **Start** ➤ **All Programs** ➤ **Honeywell Video Systems** ➤ **IP Utility** ➤ **Uninstall Honeywell IP Utility**.
2. Click **Yes**.

   The Honeywell IP Utility is uninstalled.
3. During the uninstallation process, you are prompted to also uninstall the Bonjour program. Click **Yes** to remove Bonjour or **No** to only uninstall the Honeywell IP Utility.
4. Click **Finish**.

Uninstalling the IP Utility Using the Control Panel

1. Click **Start** ➤ **Settings** ➤ **Control Panel**.
2. Open **Add or Remove Programs** and select **Honeywell IP Utility** from the **Currently installed** programs list.
3. Click **Change**/**Remove**.

   The **IP Utility Installation Wizard** screen opens.
4. Click **Next** ➤ **Remove**.
5. The Honeywell IP Utility is uninstalled.
6. During the uninstallation process, you are prompted to also uninstall the Bonjour program. Click **Yes** to remove Bonjour or **No** to only uninstall the Honeywell IP Utility.
7. Click **Finish**.

6

IP Camera Web Client

Before you launch the Honeywell camera web client, ensure that you complete the following sections:

- Camera installation as described in *Installing a Box Camera on page 25*, *Installing a 3-Inch Minidome Camera on page 31*, or *Installing a 4-Inch Minidome Camera on page 45*
- IP Utility installation as described in *Chapter 5, Installing the Honeywell IP Utility*

This chapter covers:

- Navigating the web client interface
- Understanding the web client features and functions
- Configuring compression settings
- Configuring camera settings
- Setting tamper detection
- Configuring audio, alarm, and motion detection settings (VMD)
- Configuring camera date and time
- Setting lens zoom and focus remotely (1080p series)
- Uninstalling the ActiveX software
- Uninstalling the VLC software

Overview

Certain features of the IP Camera web client are user-based and are available only to the Administrator. Guest users are limited to the Live View tab.

About the Web Client

The web client is the web-based application that enables users to:

- View live-streaming video
- View the device network settings and firmware details
- Configure camera settings
- Configure video analytics settings
- Configure compression settings
- Configure alarm and audio settings
- Configure camera date and time settings (including time synchronization)
- Remotely control lens zoom and focus [H4D2F(X) and H3D2F(X) only]

User Profiles: Web Client

The web client has two user types: *Administrator* and *Guest* as described in *Table 6-1*. They apply to Microsoft IE, Google Chrome, and Mozilla Firefox camera web clients.

Table 6-1 User Profiles and Permissions for the Web Client

Administrator/Admin	Guest
• View video and network settings. • Configure compression settings. • Configure camera setup (such as auto exposure, white balance, and day/night settings). • Configure video analytics (camera sabotage and video motion detection). • Configure audio and alarms.	• Guest users are limited to the Live View tab where they can view video

Note Windows administrator privileges are required for installing ActiveX or VLC media players, which are used by the Honeywell ONVIF camera web client.

Confirming Your System Requirements

Ensure that your workstation meets the following minimum requirements for installing ActiveX.

Table 6-2 PC Minimum Requirements for ActiveX

Component	Minimum Requirement
Web Browser	• Google Chrome (32-bit) v23.0.1271.97 or higher • Microsoft IE8, IE9 (32-bit) • Mozilla Firefox v17.01 or higher
Operating System	• Windows XP Professional SP3 • Windows 7 32-bit and 64-bit (Enterprise/Ultimate/Professional) • Windows Server 2003 32-bit (Enterprise/Standard) • Windows Vista SP1 • Windows Server 2008 R2 64-bit (Enterprise/Standard)
Processor	• Intel® Pentium® IV, 3.1 GHz or faster
RAM	• 1 GB RAM (32-bit) or 2 GB RAM (64-bit)
Graphics Card	• Display driver with Direct3D enabled (for Camera IE web client only)

Configuring Your OS and Browser for ActiveX Installation on Microsoft IE

Configuring Windows 7 (32-bit and 64-bit) and IE Security Settings

Note Make sure your user account is an Administrator account.

Checking the Firewall Settings

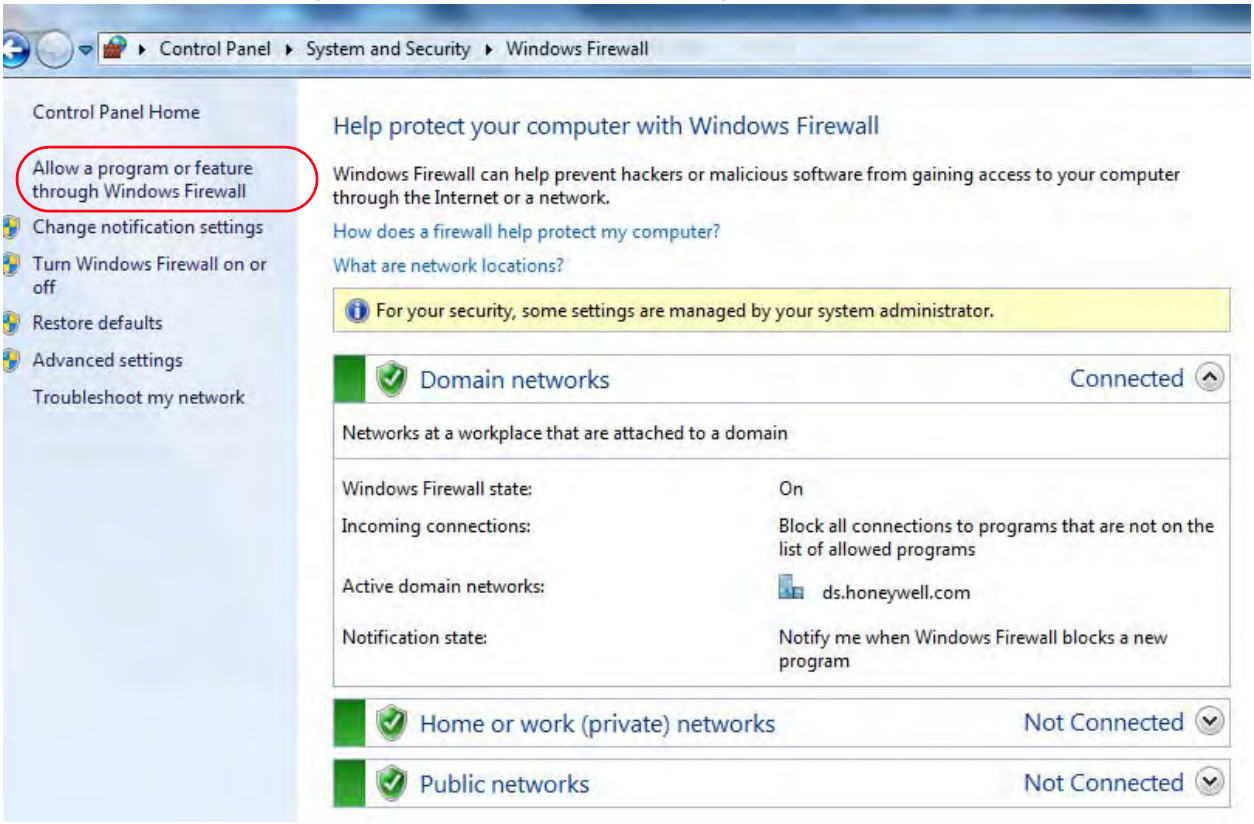
Note If the firewall is turned off on your PC, then please skip this section and continue with *Checking the UAC Settings on page 78*.

If the firewall is turned on on your PC, then you can either turn it completely off, or configure it as follows:

1. Open **Windows Firewall Settings** in IE. Click **Start ➤ Control Panel ➤ System and Security ➤ Windows Firewall Settings**.

   The Windows Firewall Settings page opens.

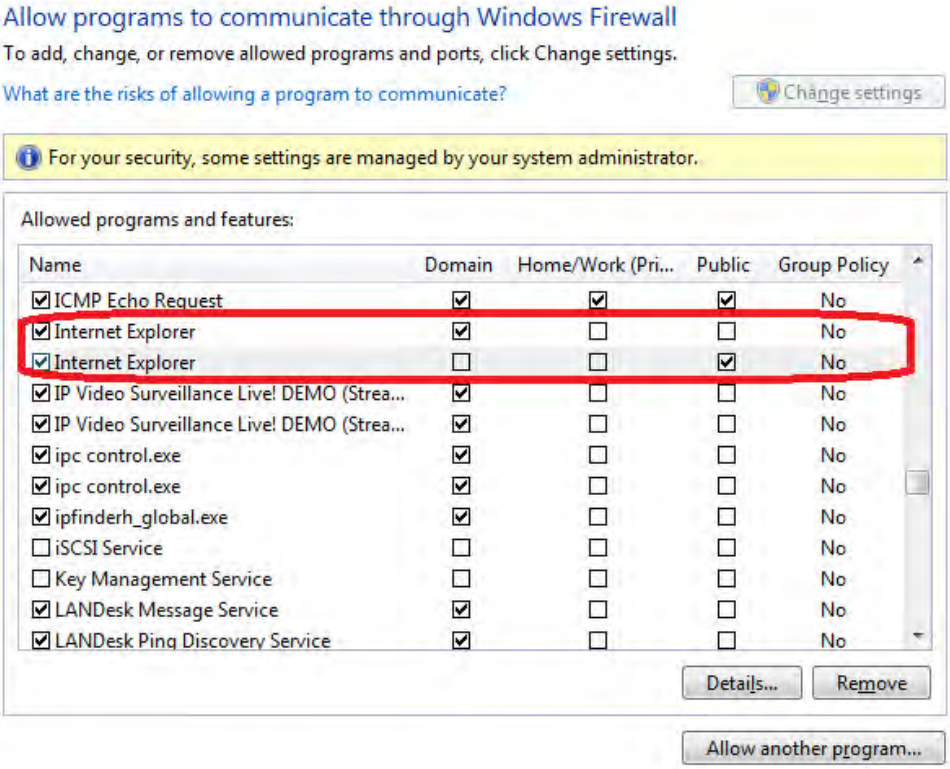
Figure 6-1 Windows Firewall Settings for IE


Control Panel ▸ System and Security ▸ Windows Firewall
Control Panel Home
Allow a program or feature through Windows Firewall
Change notification settings
Turn Windows Firewall on or off
Restore defaults
Advanced settings
Troubleshoot my network
Help protect your computer with Windows Firewall
Windows Firewall can help prevent hackers or malicious software from gaining access to your computer through the Internet or a network.
How does a firewall help protect my computer?
What are network locations?
For your security, some settings are managed by your system administrator.
Domain networks
Connected
Networks at a workplace that are attached to a domain
Windows Firewall state:
On
Incoming connections:
Block all connections to programs that are not on the list of allowed programs
Active domain networks:
ds.honeywell.com
Notification state:
Notify me when Windows Firewall blocks a new program
Home or work (private) networks
Not Connected
Public networks
Not Connected

2. Click **Allow a program or feature through Windows Firewall**.

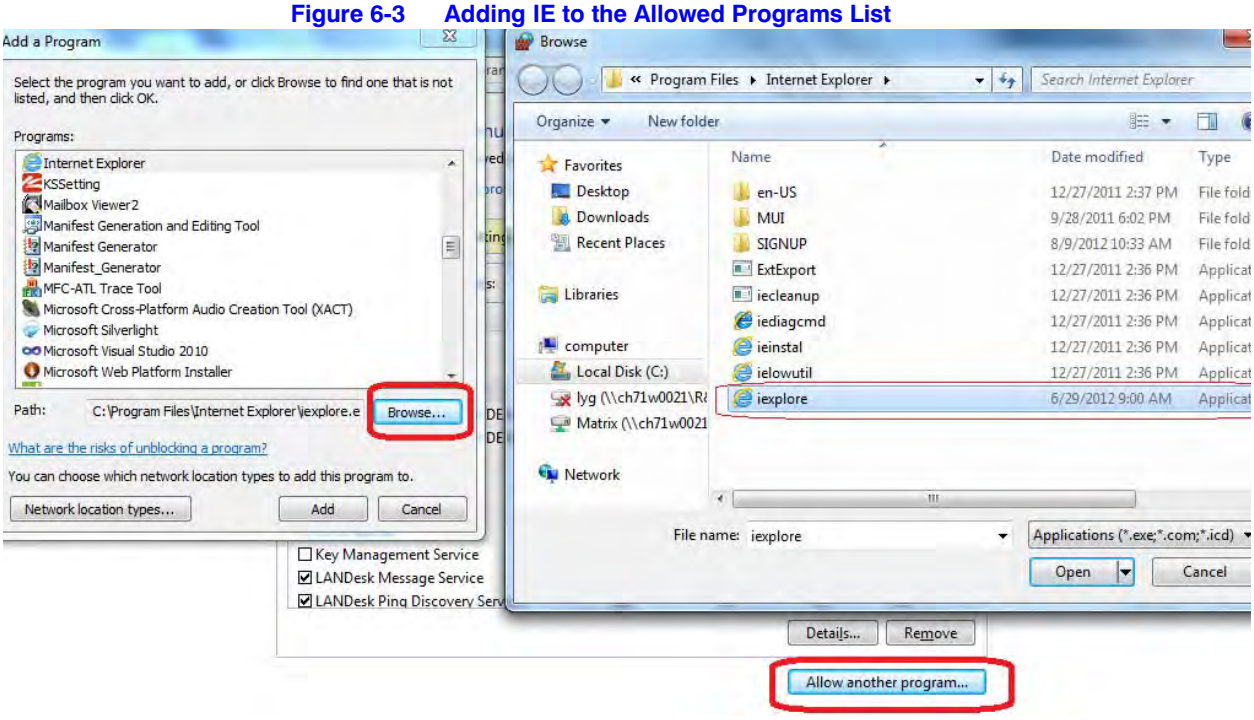
   The **Allowed Programs** list appears.

Figure 6-2 Allowed Programs List in IE



3. If Internet Explorer is already in the **Allowed** list, then please confirm that the settings are configured as in *Figure 6-2*.
4. If Internet Explorer is not already in the **Allowed** list, then please add IE to the list, as shown in *Figure 6-3*.

Figure 6-3 Adding IE to the Allowed Programs List

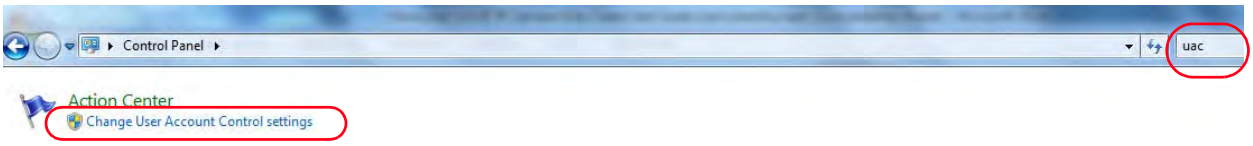


Note After adding IE to the Allowed Programs list, please configure the settings as shown in *Figure 6-2*.

Checking the UAC Settings

1. Click **Start ➤ Control Panel** to open the Control Panel.
2. Enter **UAC** in the **Search Control Panel**.

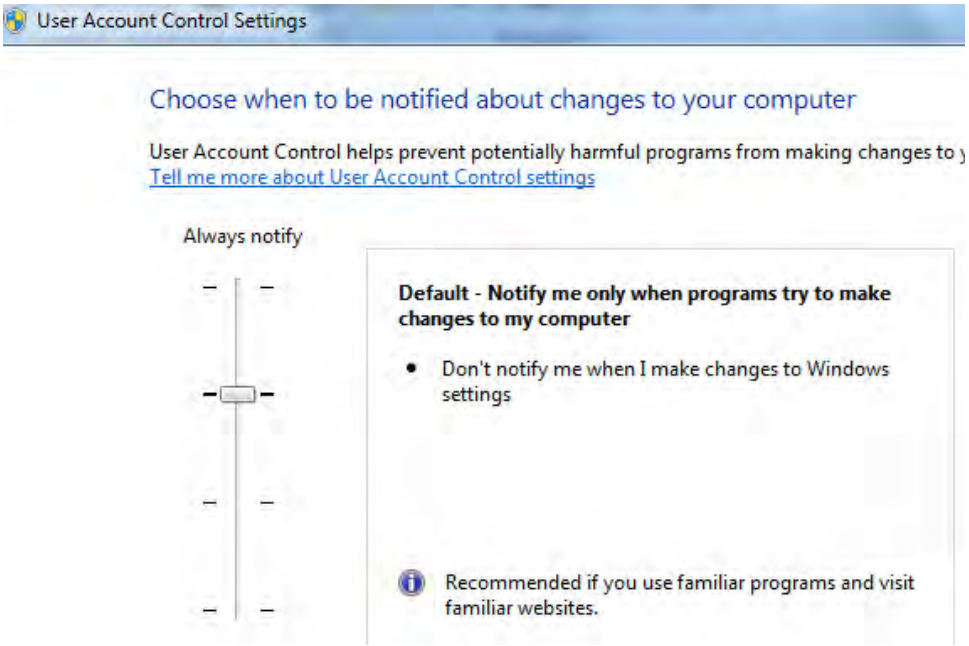
Figure 6-4 Searching for UAC in the Control Panel



3. Click **Change User Account Control settings**.

   The User Account Control Settings page appears.

Figure 6-5 User Account Control Settings Page


User Account Control Settings
Choose when to be notified about changes to your computer
User Account Control helps prevent potentially harmful programs from making changes to
Tell me more about User Account Control settings
Always notify
Default - Notify me only when programs try to make changes to my computer
Don't notify me when I make changes to Windows settings
Recommended if you use familiar programs and visit familiar websites.

If the UAC level is not configured to the lowest level (see *Figure 6-6*), then please run IE as administrator, as shown in *Figure 6-7* on *page 79*

Figure 6-6 Preferred UAC Settings

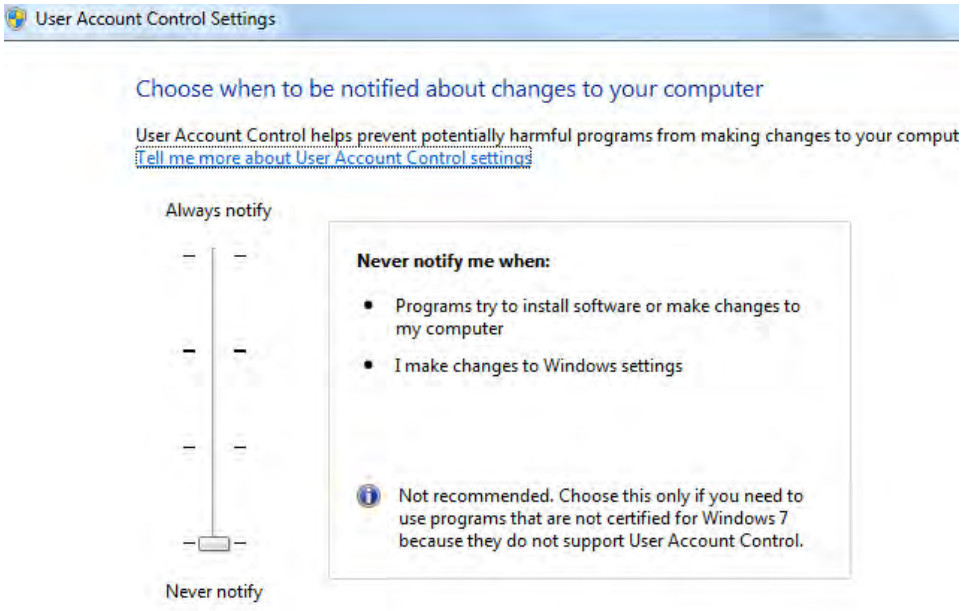
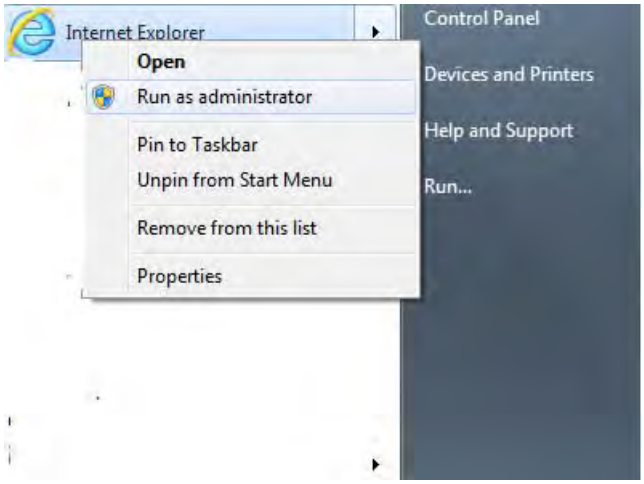

User Account Control Settings
Choose when to be notified about changes to your computer
User Account Control helps prevent potentially harmful programs from making changes to your comput
Tell me more about User Account Control settings
Always notify
Never notify
Never notify me when:
Programs try to install software or make changes to my computer
I make changes to Windows settings
Not recommended. Choose this only if you need to use programs that are not certified for Windows 7 because they do not support User Account Control.

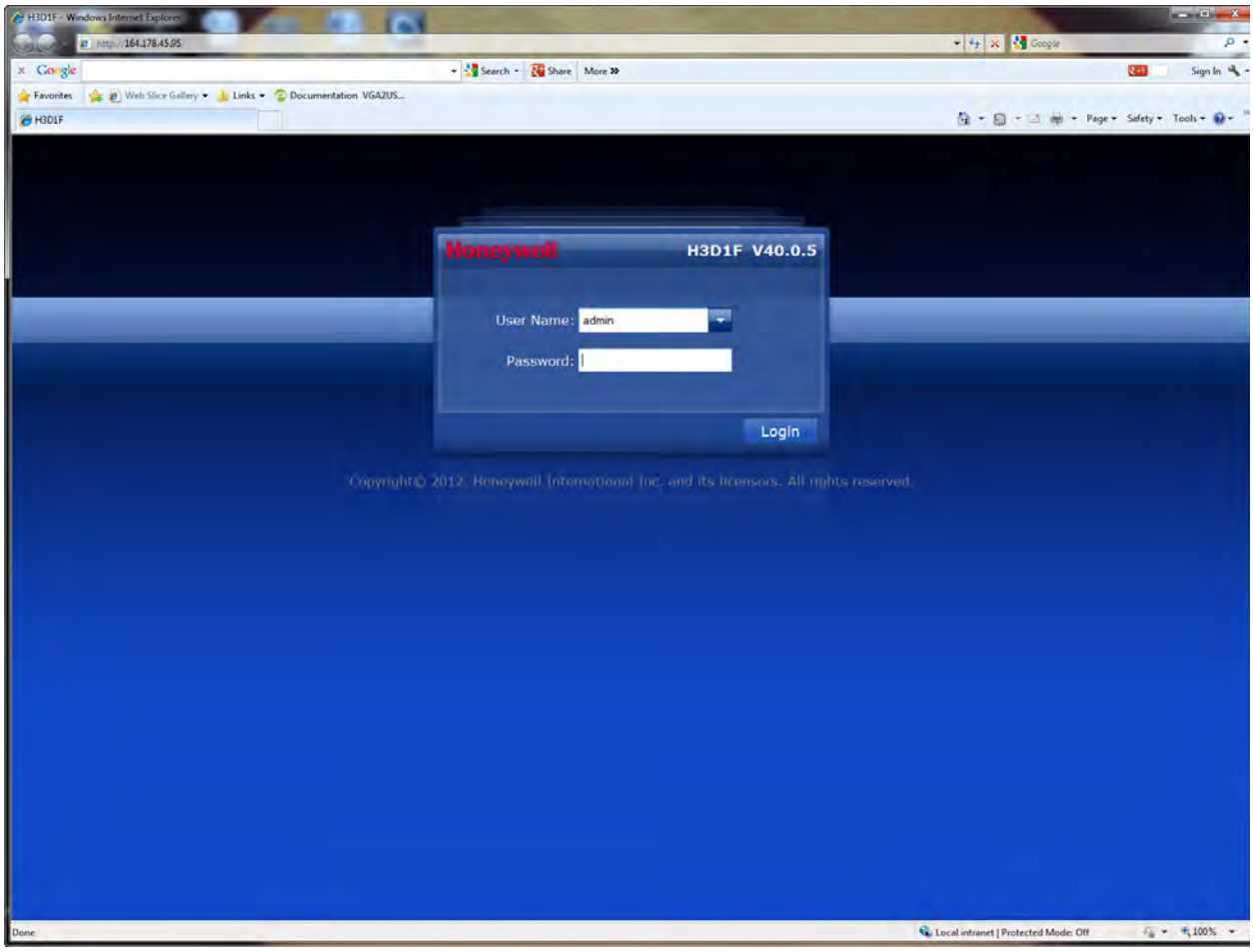
Figure 6-7 Run IE as Administrator



Adding to Trusted Sites in IE

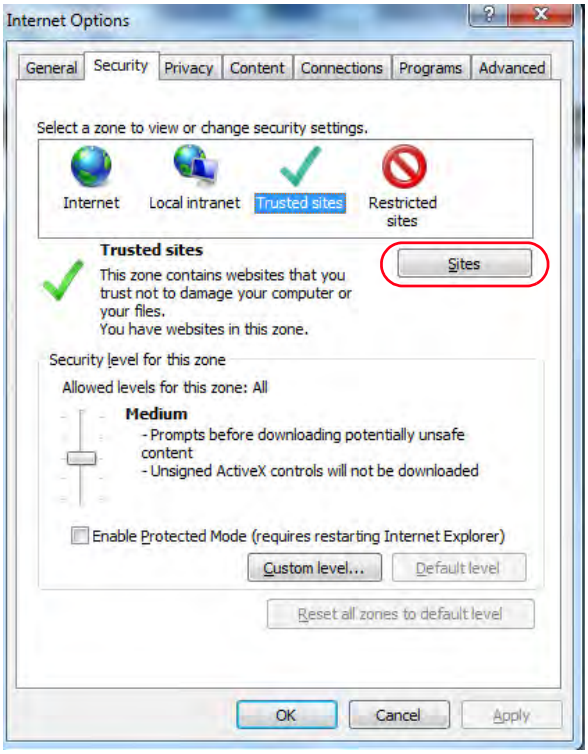
1. Open the camera login page.

Figure 6-8 Camera Login Page



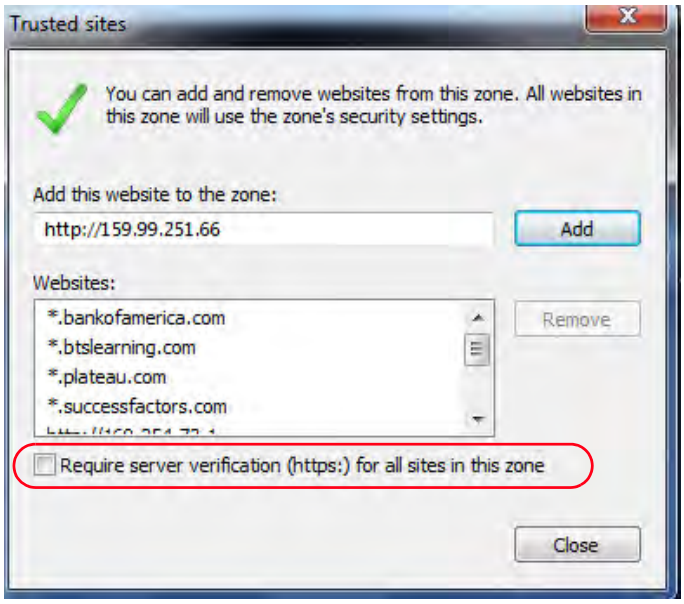
2. Click **Tools ➤ Internet Options ➤ Security ➤ Trusted Sites**.

Figure 6-9 Trusted Sites Configuration Page in IE



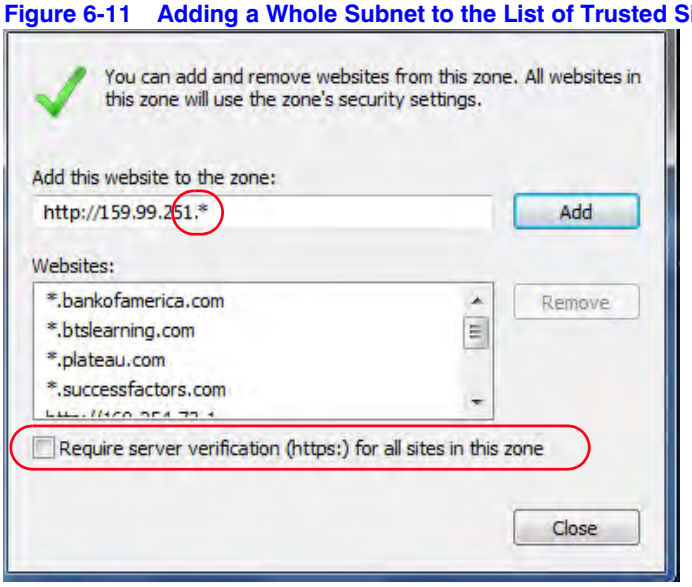
3. Click **Sites**. The **Trusted Sites** window opens.

Figure 6-10 Trusted Sites List



4. Click to uncheck **Require server verification (https:) for all sites in the zone**.
   - To add one camera to the **Trusted Sites** list, enter the **URL** in the **Add this website to the zone:** field. See *Figure 6-10*.
   - To add a whole subnet to the **Trusted Sites** list, enter the partial **URL** with a * at the end in the **Add this website to the zone:** field. Use a * to add the whole network.

Figure 6-11 Adding a Whole Subnet to the List of Trusted Sites



5. Click **Add** to add the website in the **Add this website to the zone** field to the list of trusted websites.
6. Click **Close** to close this window.

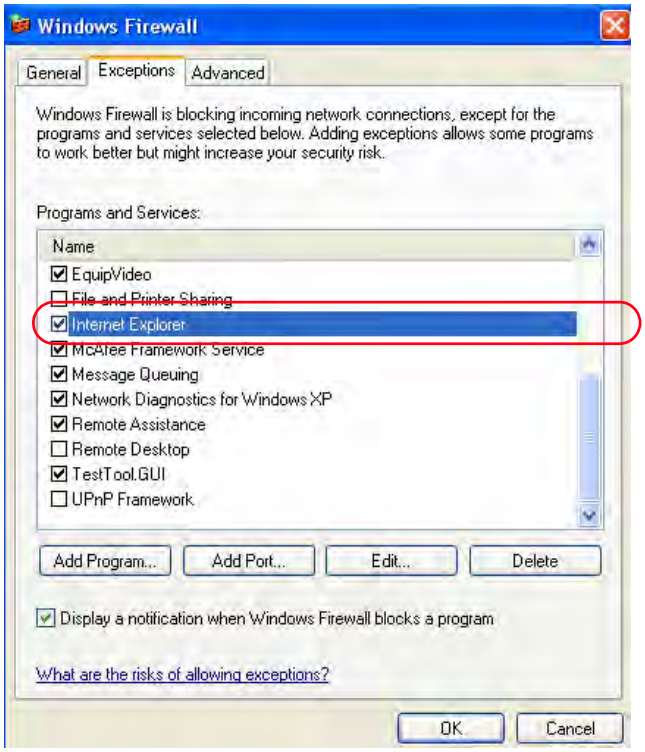
Configuring Windows XP Service Pack 3 and IE Security Settings

Note Make sure your user account is an Administrator account.

Checking the Firewall

If the firewall is on, please configure it to allow IE through the firewall.

Figure 6-12 Allowing IE through the Firewall

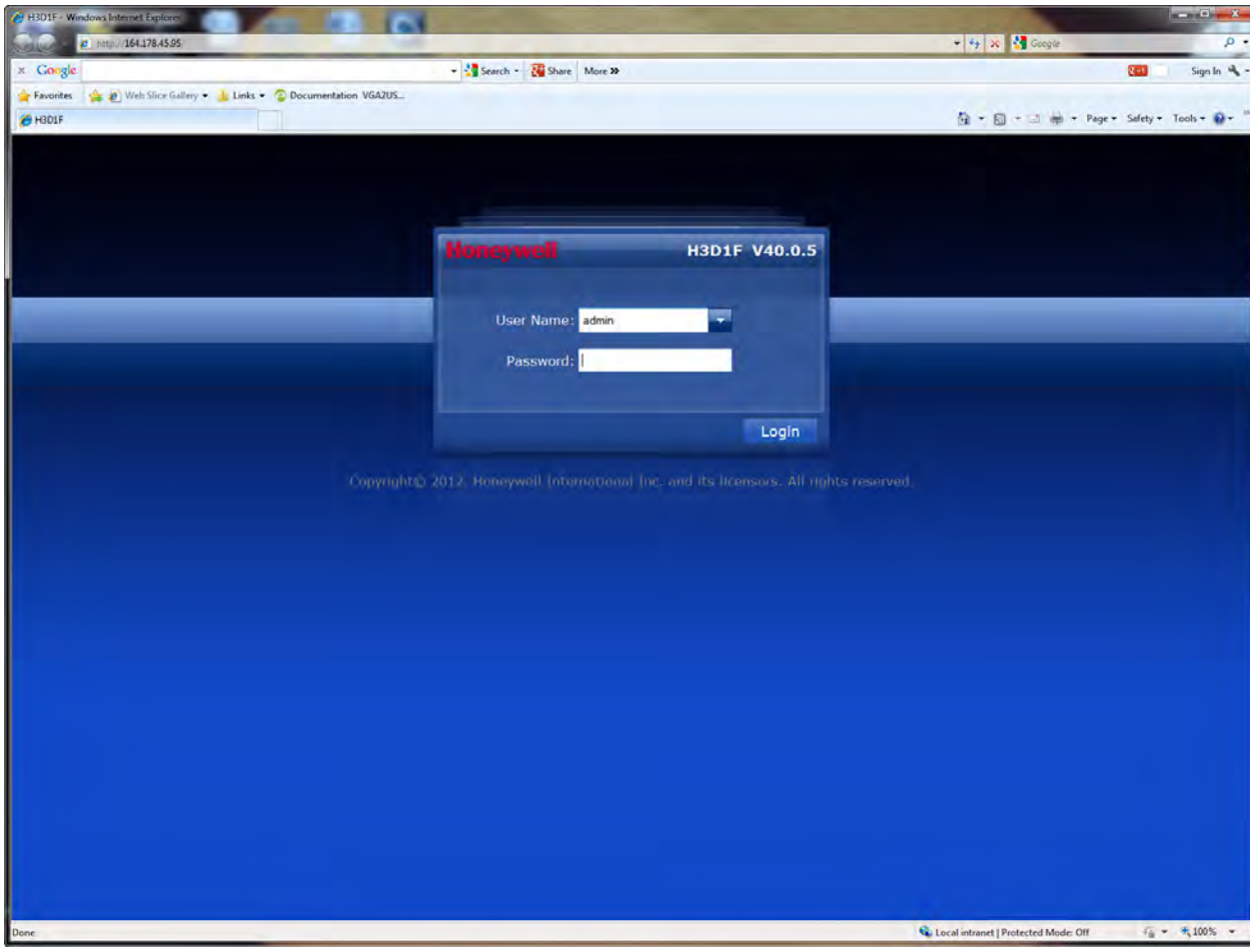


Click **OK** to save the changes.

Adding to Trusted Sites in IE

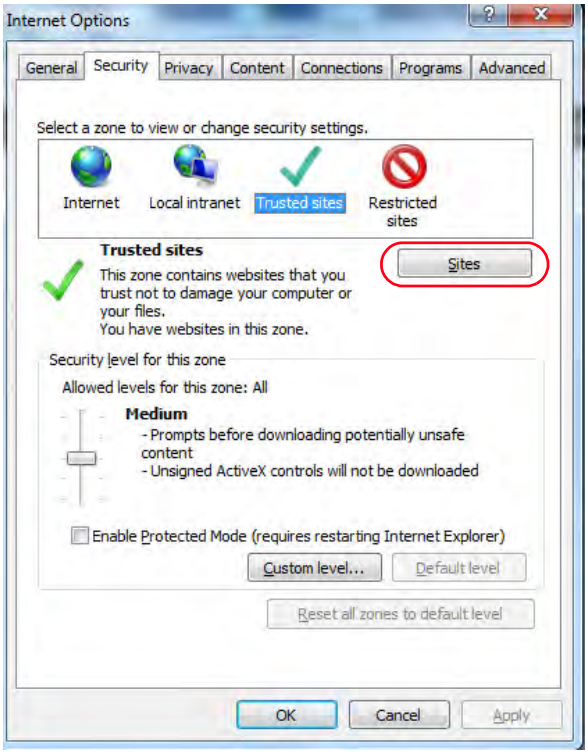
1. Open the camera login page.

Figure 6-13 Camera Login Page



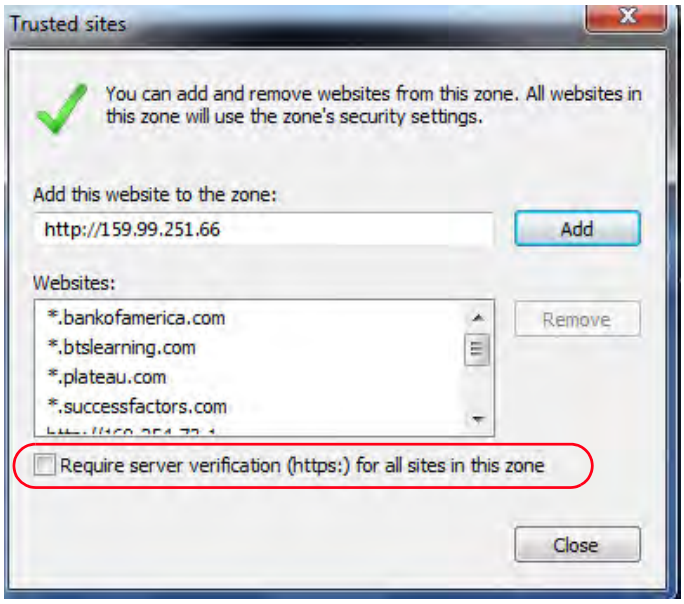
2. Click **Tools ➤ Internet Options ➤ Security ➤ Trusted Sites**.

Figure 6-14 Trusted Sites Configuration Page in IE



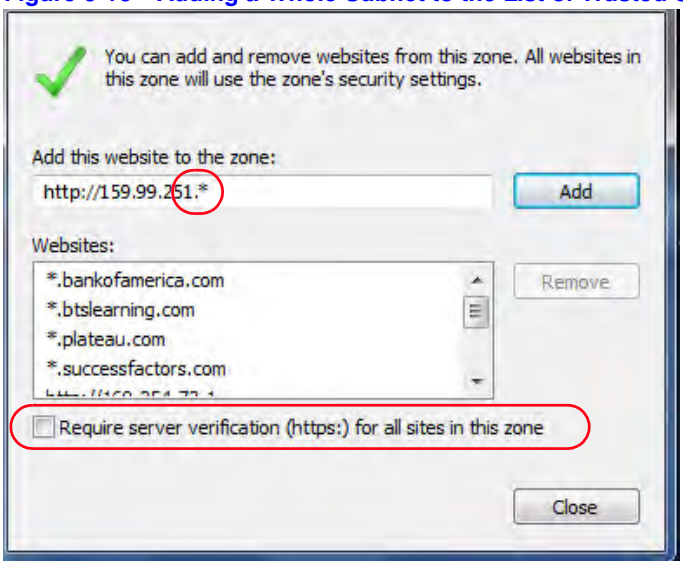
3. Click **Sites**. The **Trusted Sites** window opens.

Figure 6-15 Trusted Sites List



4. Click to uncheck **Require server verification (https:) for all sites in the zone**.
   - To add one camera to the **Trusted Sites** list, enter the **URL** in the **Add this website to the zone:** field. See *Figure 6-10*.
   - To add a whole subnet to the **Trusted Sites** list, enter the partial **URL** with a * at the end in the **Add this website to the zone:** field. Use a * to add the whole network.

Figure 6-16 Adding a Whole Subnet to the List of Trusted Sites



5. Click **Add** to add the website in the **Add this website to the zone** field to the list of trusted websites.
6. Click **Close** to close this window.

Logging On and Off the Camera Web Client

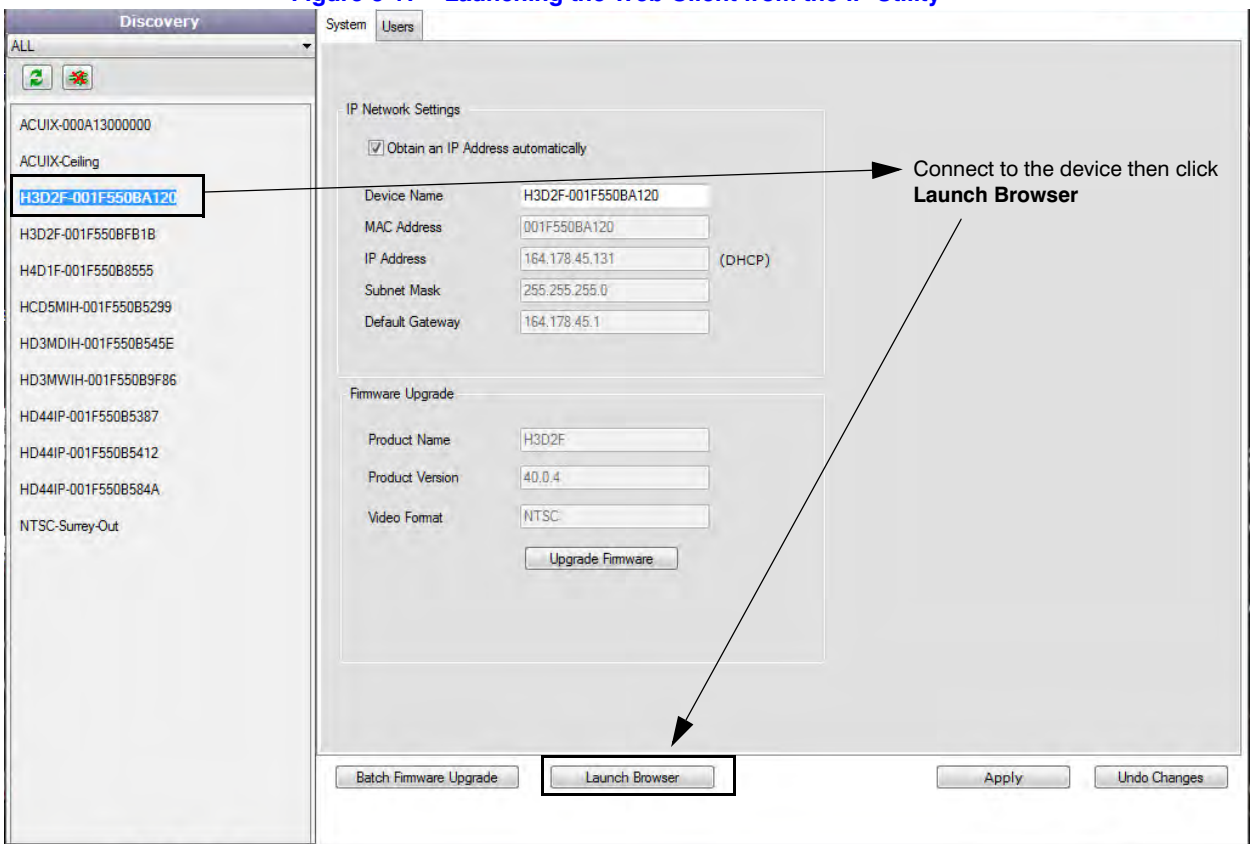
There are two ways to open each camera web client.

- By clicking **Launch Browser** in the IP Utility interface (Microsoft IE only).
- Directly through a browser (IE, Chrome, or Firefox) by entering the URL (the IP address) in the address bar.

Launching the Microsoft IE Camera Web Client with the IP Utility

1. From the desktop, double-click the **Honeywell IP Utility** icon .
   -OR-
   Click **Start ➤ Programs ➤ Honeywell Video Systems ➤ IP Utility ➤ Honeywell IP Utility**.
   The **Honeywell IP Utility Log On** window opens.
2. In the **Discovery** pane, double-click the device you want to connect to.
   -OR-
   Select the device and click **Connect** .
   The network settings for the connected device are displayed in the **System** pane.
3. Click **Launch Browser** (see *Figure 6-17*) to go to the web client logon page.

Figure 6-17 Launching the Web Client from the IP Utility



The Web Client login page appears.

Figure 6-18 Web Client Login Page

4. Select a **Username** and enter a **Password**.
   a. Select either **Admin** or **Guest** from the **User Name** drop-down list,.
   b. Enter the case-sensitive password in the **Password** field.
      - The default Administrator password is **1234**.
      - The default Guest password is **guest**.
   c. Click Login .

A window appears announcing that ActiveX will be installed on your computer.

Note A signed version of ActiveX® control is installed when you log in to a Honeywell ONVIF camera from IE for the first time. If you have a previous version of ONVIF ActiveX is installed, you are prompted to upgrade to a later version of the Honeywell ActiveX.

Figure 6-19 ActiveX Prompt

Honeywell ONVIF IP ActiveX - InstallShield Wizard
Welcome to the InstallShield Wizard for Honeywell ONVIF IP ActiveX
The InstallShield(R) Wizard will install Honeywell ONVIF IP ActiveX on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

5. Click **Next**.
6. Follow the InstallShield Wizard prompts to install the Honeywell ONVIF ActiveX on your PC.

   The **`InstallShield Wizard Completed`** message indicates a successful ActiveX upgrade.
7. Click **Finish**.

   The web client interface opens and live streaming video displays on the monitor.

Logging Onto the Camera Web Client through a Browser

Three internet browsers are supported by the Honeywell ONVIF camera:

- Microsoft® IE8 and IE9 (32-bit)
- Google Chrome™ v17.01 or higher (32-bit)
- Mozilla Firefox® v23.0.12271.97 or higher (32-bit)

Launching the Camera Web Client through Internet Explorer

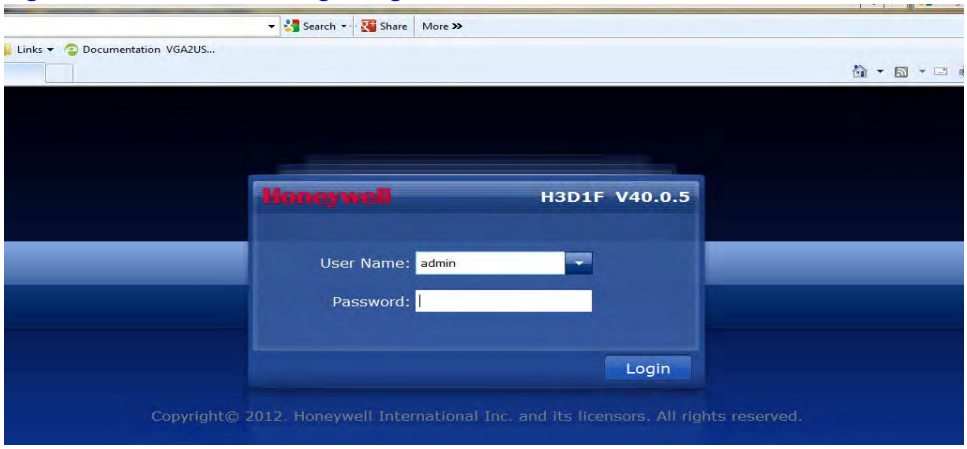
Ensure that you have already configured your OS and Browser for ActiveX. See *Configuring Your OS and Browser for ActiveX Installation on Microsoft IE on page 75*.

1. From Internet Explorer, enter the URL (IP address of the device) in the Address bar to open the login window.

TIP! To find the IP address, look in the IP Network Settings field on the Honeywell IP Utility. See *Finding the URL (IP Address) of the Device on page 93*.

The **web client** log in page opens.

Figure 6-20 Web Client Login Page



2. Select a **Username** and enter a **Password**.
   a. Select either **Admin** or **Guest** from the **User Name** drop-down list,.
   b. Enter the case-sensitive password in the **Password** field.
      - The default Administrator password is **1234**.
      - The default Guest password is **guest**.
   c. Click Login .

A window appears announcing that ActiveX will be installed on your computer.

Note A signed version of ActiveX® control is installed when you use the web client to discover connected devices for the first time. If you have a previous version of IP ActiveX is installed, you are prompted to upgrade to Honeywell secure ActiveX control.

Figure 6-21 ActiveX Prompt

Honeywell ONVIF IP ActiveX - InstallShield Wizard
Welcome to the InstallShield Wizard for Honeywell ONVIF IP ActiveX
The InstallShield(R) Wizard will install Honeywell ONVIF IP ActiveX on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

3. Click **Next**.

4. Follow the InstallShield Wizard prompts to install the secure Honeywell IP ActiveX on your PC.

   The InstallShield Wizard Completed message indicates a successful ActiveX upgrade.

5. Click **Finish**.

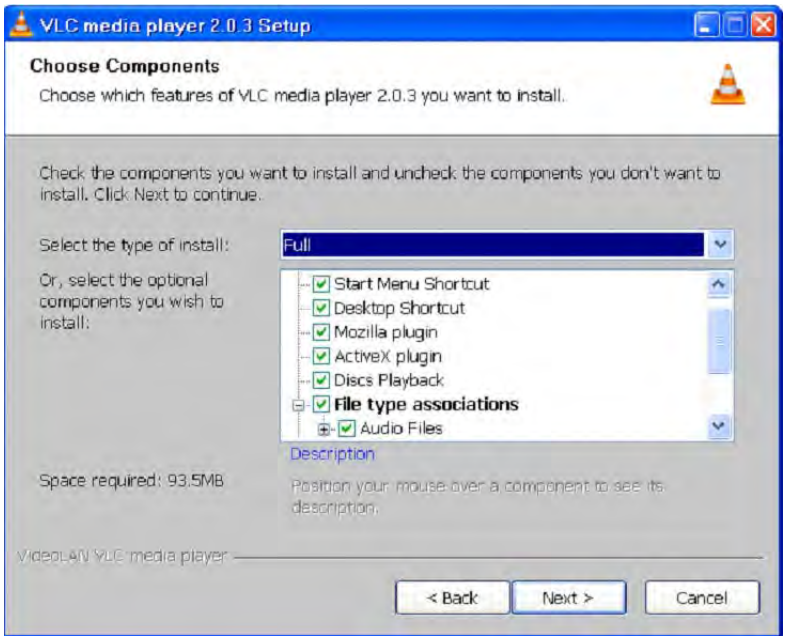
   The web client interface opens and live streaming video displays on the monitor.

Launching the Camera Web Client through Google Chrome

Before opening Google Chrome, you should install the VLC Media Player from the IP Utility DVD.

1. Install **VLC** from the IP Utility DVD. Select **Full** from the **Select the type of install:** drop-down menu, then follow the wizard to complete the installation process.

Figure 6-22 Selecting the type of VLC Installation


VLC media player 2.0.3 Setup
Choose Components
Choose which features of VLC media player 2.0.3 you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select the type of install:
Full
Or, select the optional components you wish to install:
Start Menu Shortcut
Desktop Shortcut
Mozilla plugin
ActiveX plugin
Discs Playback
File type associations
Audio Files
Description
Space required: 93.5MB
Position your mouse over a component to see its description.
VideoLAN VLC media player
< Back
Next >
Cancel

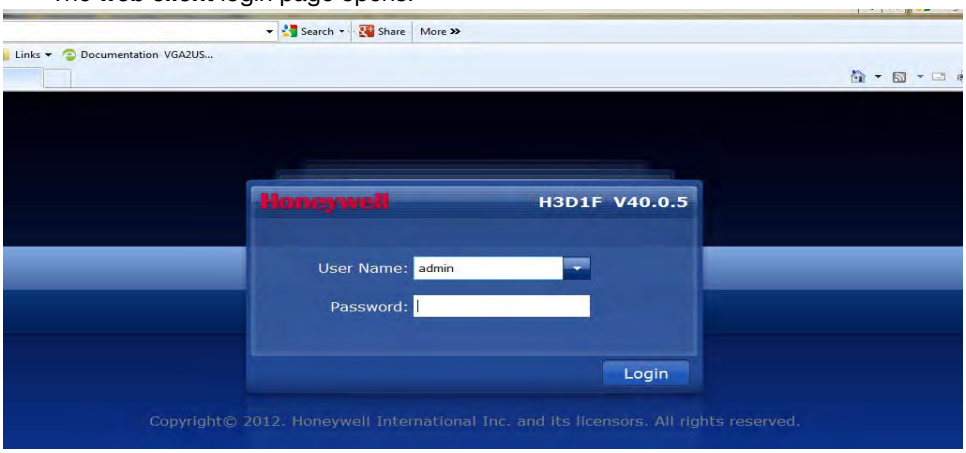
2. Open Google Chrome (if you don't already have it open).

Note You might need to restart Firefox after installing VLC.

3. Enter the URL (IP address of the device) in the Address bar, then press **Enter** on your keyboard.

TIP! To find the IP address, look in the IP Network Settings field on the Honeywell IP Utility. See *Finding the URL (IP Address) of the Device on page 93*.

The **web client** login page opens.



4. Select a **User Name** and enter a **Password**.
   a. From the **User Name** drop-down list, select **admin** or **guest**.
   b. In the **Password** field, enter the case-sensitive password.
      - The default Administrator password is **1234.**
      - The default Guest password is **guest.**
   c. Click Login .

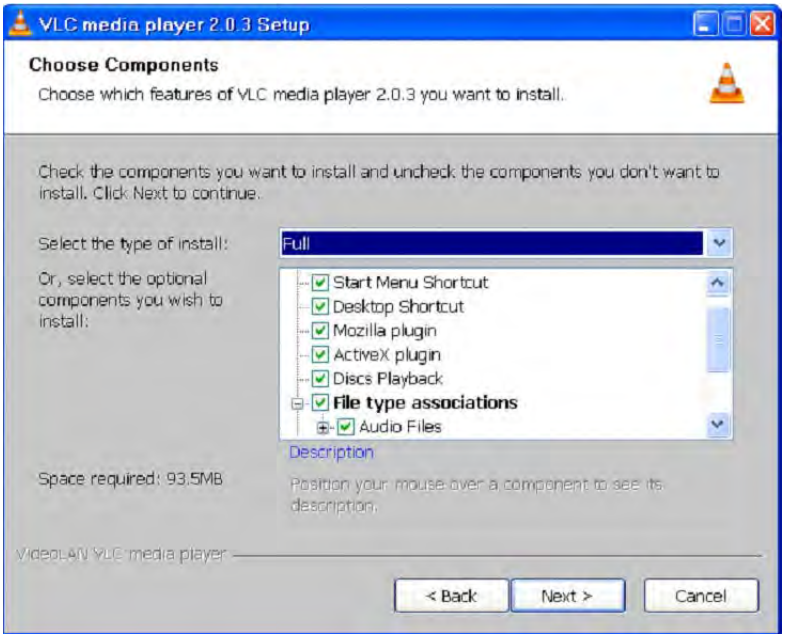
The web client interface opens and live streaming video displays on the monitor.

Launching the Camera Web Client through Mozilla Firefox

Before opening Firefox, you should install the VLC Media Player from the IP Utility DVD.

1. Install **VLC** from the IP Utility DVD. Select **Full** from the **Select the type of install:** drop-down menu, then follow the wizard to complete the installation process.

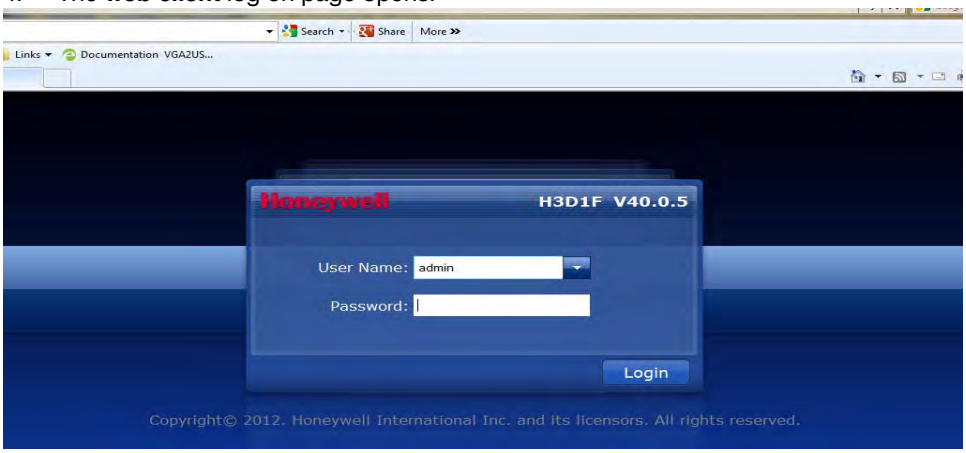
Figure 6-23 Selecting the type of VLC Installation


VLC media player 2.0.3 Setup
Choose Components
Choose which features of VLC media player 2.0.3 you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select the type of install:
Full
Or, select the optional components you wish to install:
Start Menu Shortcut
Desktop Shortcut
Mozilla plugin
ActiveX plugin
Discs Playback
File type associations
Audio Files
Description
Position your mouse over a component to see its description.
Space required: 93.5MB
VideoLAN VLC media player
< Back
Next >
Cancel

2. Open Firefox (if you don't already have it open).

Note You might need to restart Firefox after installing VLC.

3. Enter the URL (IP address of the device) in the Address bar, then press **Enter** on your keyboard. See note below if you do not have the IP address.
4. The **web client** log on page opens.

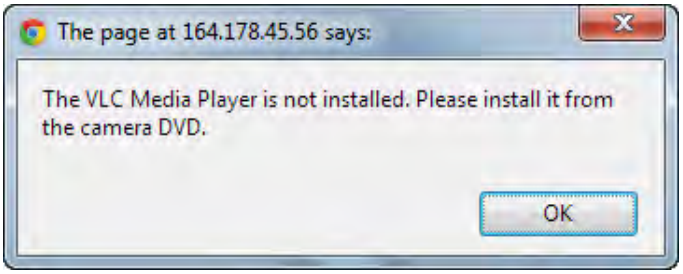


5. Select a **User Name** and enter a **Password**.
   a. From the **User Name** drop-down list, select **admin** or **guest**.
   b. In the **Password** field, enter the case-sensitive password.
      - The default Administrator password is **1234.**
      - The default Guest password is **guest.**
   c. Click Login .

The web client interface opens and live streaming video displays on the monitor.

Note If you did not previously install VLC, then a warning dialog will appear in Chrome or Firefox. See *Figure 6-24*.

Figure 6-24 VLC Warning



Note We recommend that you install the VLC media player, which you will find on the IP Utility DVD that came with your camera. See *step 1* on *page 91*.

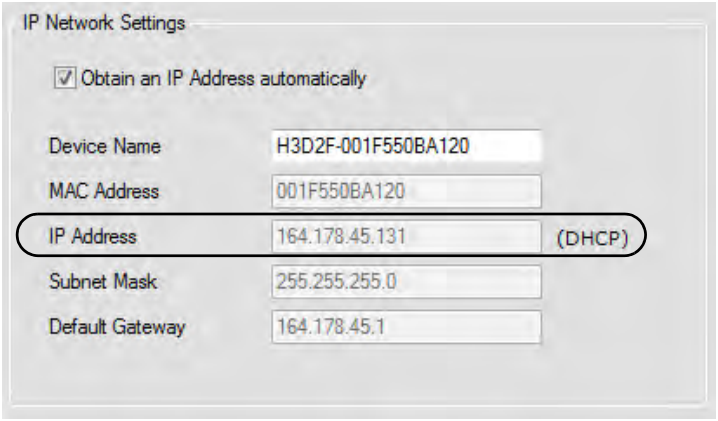
Finding the URL (IP Address) of the Device

You will need the URL of the device to open it directly in a browser window.

You will find the URL of the device in the IP Network Settings pane of the Honeywell IP Utility window.

Click on the camera in the Discovery pane. The IP network settings for that camera appear in the IP Network Settings pane.

Figure 6-25 IP Network Settings Pane



Logging Out of the Web Client

To log out from the web client application, click **Logout** at the top of the web client window.

Uninstalling the Honeywell ONVIF ActiveX: Microsoft IE

You will use the Control Panel to uninstall the ActiveX software.

1. Click **Start** ➤ **Settings** ➤ **Control Panel**.
2. Open **Add or Remove Programs** and select **Honeywell ONVIF ActiveX** from the **Currently installed** programs list.
3. Click **Change**/**Remove**.

   The **Honeywell ONVIF ActiveX Installation Wizard** screen opens.
4. Click **Next** ➤ **Remove**.

   The Honeywell ONVIF ActiveX is uninstalled.
5. Click **Finish**.

Uninstalling the VLC Media Player: Google Chrome and Mozilla Firefox

You will use the Control Panel to uninstall the VLC software.

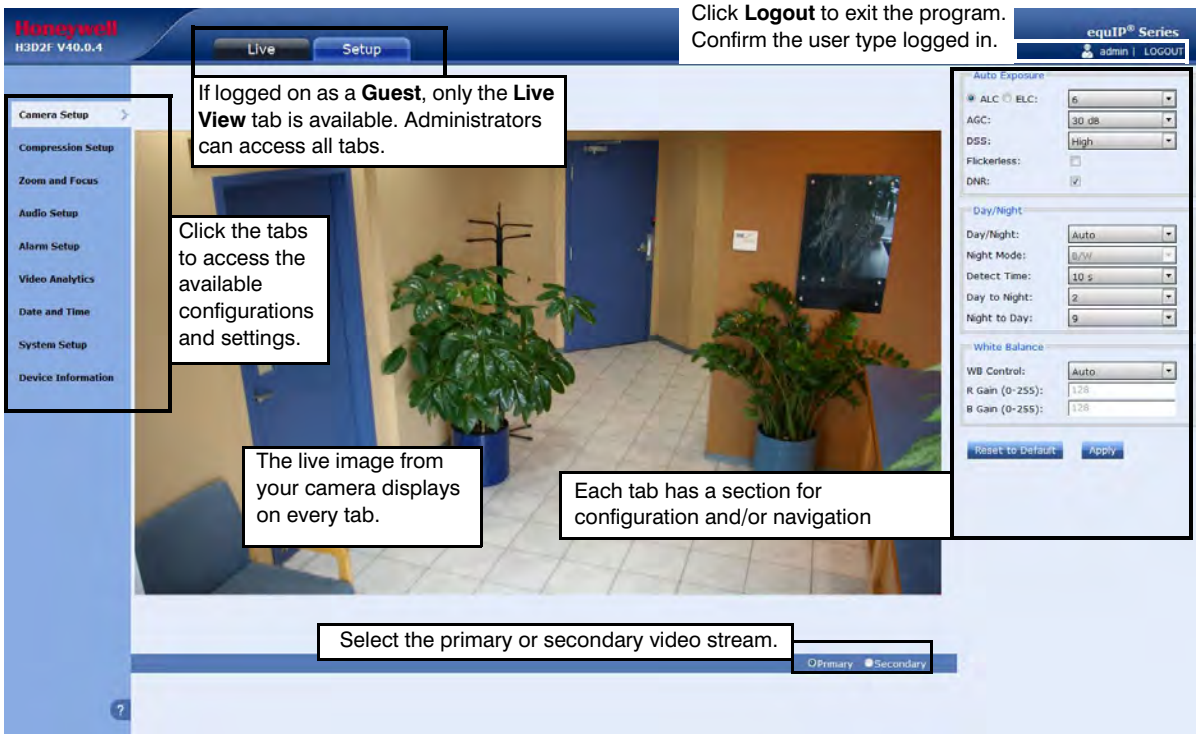
1. Click **Start** ➤ **Settings** ➤ **Control Panel**.
2. Open **Add or Remove Programs** and select **VLC** from the **Currently installed** programs list.
3. Click **Uninstall**/**Change**.

   The **VLC Installation Wizard** screen opens.
4. Click **Next** ➤ **Remove**.

   The VLC software is uninstalled.
5. Click **Finish**.

Navigating the Web Client User Interface

Figure 6-26 Web Client Window Layout: Administrator Log On



The web client application user interface consists of multiple user-friendly tabs organized by function. Access to the tabs is user-controlled.

Table 6-3 Tabs in the Web Client Application

Tab	Enables you to...
Camera Setup	Configure auto exposure, day/night settings, and white balance.
Compression Setup	Select the compression mode. For the Primary and Secondary streams, set the resolution, frame rate, priority (Quality, Bit Rate, Frame Rate), compression ratio, target bit rate, maximum bit rate, and GOP.
Zoom & Focus	Remotely adjust the zoom and focus. *H3D2F(X) and H4D2F(X) models only.*
Audio Setup	Configure Camera to Client (PC) and Client (PC) to Camera audio setup. (IE only)
Alarm Setup	Configure alarm inputs and outputs
Video Analytics	Configure the camera tamper detection settings and video motion detection settings.
Date and Time	Configure the time zone, NTP server, and overlay settings.

Table 6-3 Tabs in the Web Client Application (cont'd)

Tab	Enables you to...
System Setup	Configure port allocation and camera snapshot settings (IE only). Restart the camera while maintaining the existing camera configuration. Reset the camera to the factory defaults (excluding the network settings). Or reset the camera to factory defaults, including the network settings.
Device Information	View the network settings and firmware details of the camera.

Figure 6-27 Web Client: Administrator View

Figure 6-28 Web Client: Guest User View

Honeywell
H3D2F V40.0.4
Live
equIP® Series
guest | LOGOUT
Primary Stream
H3D2F-001F550BA120
When an alarm is detected, an alarm message appears here to notify the operator.
Snapshot
Logging on as a **Guest** limits users to Live View tab functions only. See *Live View* for more details.

Live View

Live View shows live video from the selected camera (see *Figure 6-28*).

Taking a Snapshot

Snapshot is available to Administrators and Users with administrator and guest privileges.

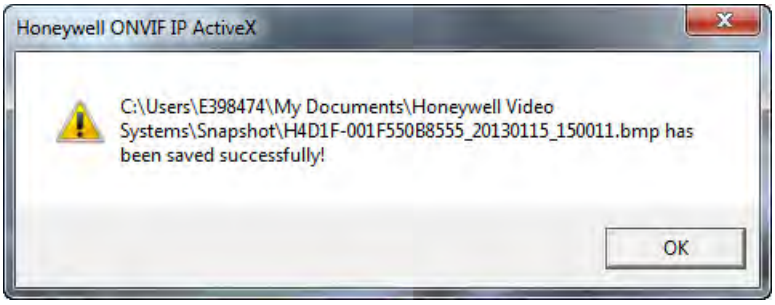
Taking a Snapshot in Microsoft® IE8 and IE9

The Snapshot function allows you to save an image from Live View to a default folder on your computer (*C:\Program Files\Honeywell Video Systems\Support\Snapshots*). Files are saved as: *DeviceName_Date_Time*.bmp. You are asked for confirmation in IE.

Click on the **Snapshot** icon . A window appears displaying the snapshot.

A confirmation message appears to confirm that the snapshot has been successfully saved.

Figure 6-29 Snapshot Confirmation Message for IE

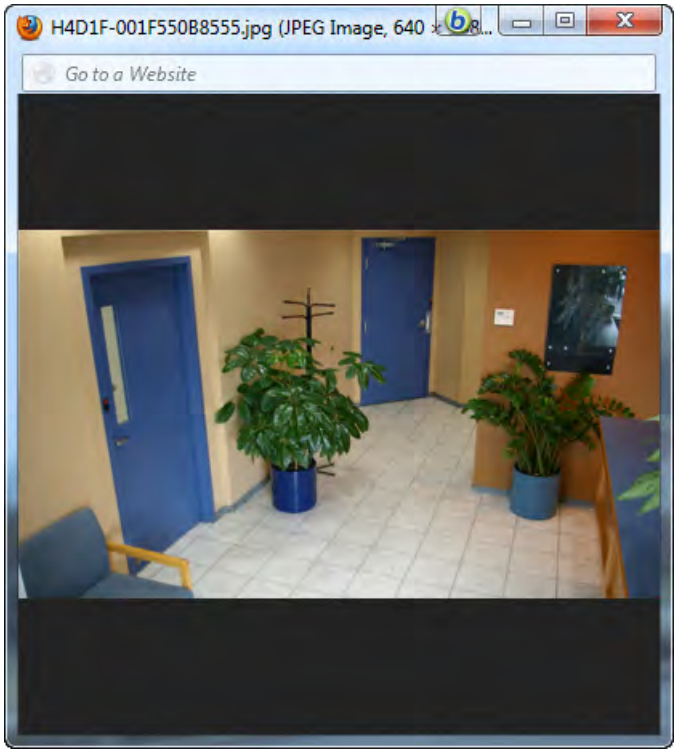

Honeywell ONVIF IP ActiveX
C:\Users\E398474\My Documents\Honeywell Video Systems\Snapshot\H4D1F-001F550B8555_20130115_150011.bmp has been saved successfully!
OK

Note To configure the settings for Snapshot, including the file type and save path, go to the **System Setup** tab. See *Configuring Snapshot Settings (Microsoft IE only) on page 136*.

Taking a Snapshot in Google Chrome™ and Mozilla Firefox®

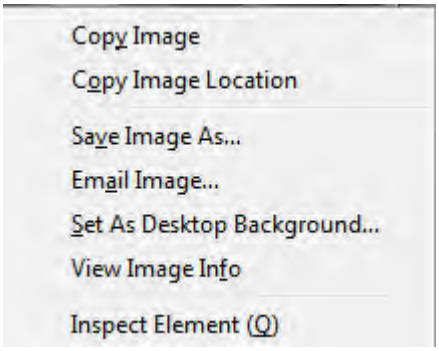
1. Click on the **Snapshot** icon . A window appears displaying the snapshot. Firefox example is shown.

Figure 6-30 Standalone Snapshot Window



2. Right-click on the snapshot image. This menu appears.

Figure 6-31 Snapshot Menu in Firefox/Chrome



3. Click **Save Image As...**.
4. Enter a file **name** and select a **file type**, then click **Save**.

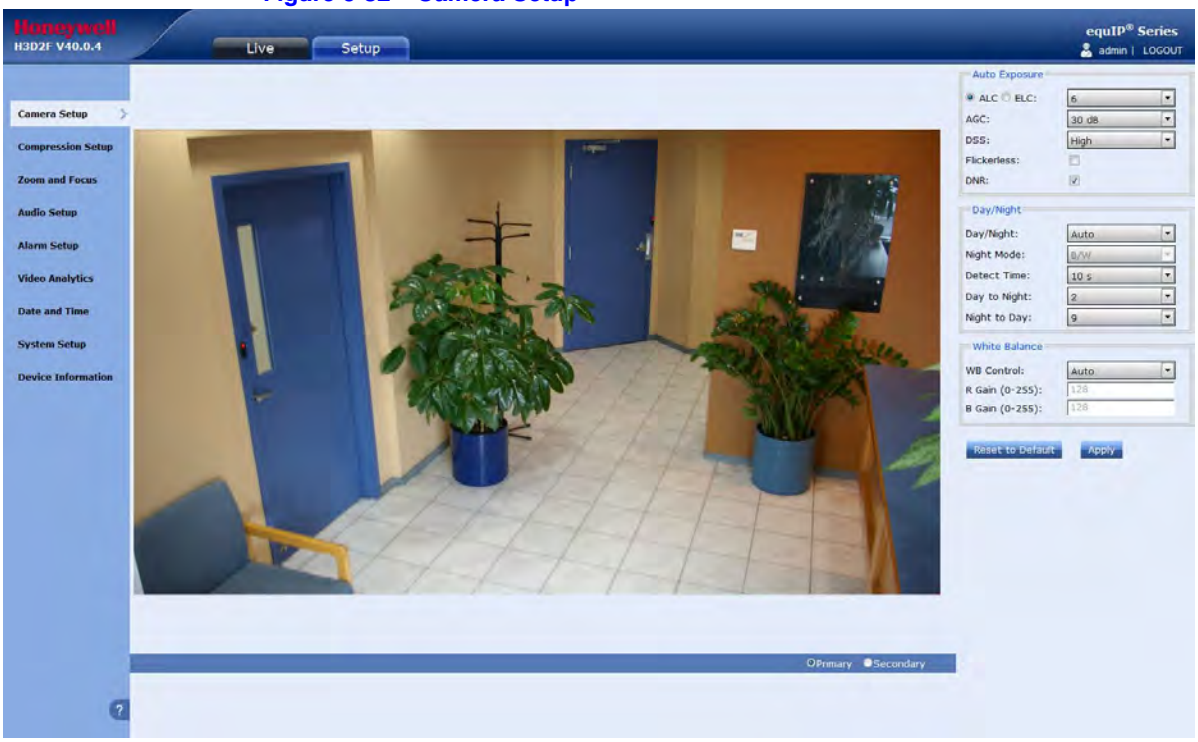
Note You can also select the folder where the file is saved. Click the icons in the menu tree in the left panel to select a location.

Camera Setup

The Camera Setup view provides access to the camera configurations for both Primary and Secondary streams. The following section explains Auto Exposure and White Balance setup.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Figure 6-32 Camera Setup



Basic Camera Setup Procedure

1. Aim and focus the camera using the test video output.
2. Create a typical scene. Add the motion, scene complexity, and lighting levels (day or night) expected in normal operation.
3. Using the camera web client application, open the **Camera Setup** tab, and adjust the image parameters—brightness, color, AGC (gain)—to achieve the desired exposure and white balance.
4. Open the **Compression Settings** tab, and enable **Statistics**.
5. Select the resolution, frame rate, and priority mode (Quality, Bit Rate, or Frame Rate).
   a. Is the delivered picture quality, bit rate, and frame rate acceptable with the appropriate motion, scene complexity, and day/night transitions?

      Yes - Then camera setup is complete.

      No - Then additional configuration is required.

   b. If the delivered bit rate is close to the maximum bit rate, then can you increase the maximum bit rate value?

      Yes - Then increase the maximum bit rate and return to 5a.

No - Then set the compression ratio to High or Maximum, then return to 5a.

c. Can you increase the target bit rate value?

Yes - Then increase the target bit rate, and return to 5a.

No - Then reduce the resolution and/or frame rate.

Auto Exposure

The Auto Exposure settings allow the user to access and configure exposure-related settings as described in *Table 6-4*.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Table 6-4 Auto Exposure Settings

Setting	Options	Description
ALC (Automatic Light Compensation) (not for H3W1F, H4W1F, or HCW1F)	DC Iris Level: 1–25	For ALC the shutter speed is constant and brightness is controlled through the lens iris by opening or closing it. Adjust the ALC level to the appropriate value so that the image is correctly exposed (neither too bright nor too dark). This is recommended for indoor scenes, especially under fluorescent light.
ELC (Electronic Light Compensation)	Level 1–25	For ELC, the lens iris is fully open at all times and brightness is achieved by controlling the electronic shutter. Select ELC level to attain the desired scene brightness. ELC is recommended for outdoor scenes.
AGC (Automatic Gain Control)	Off, 20 dB–40 dB	The AGC default is 30dB. Increase the gain setting to improve the scene brightness. AGC can be **Off**, or set to **20 dB**, **30 dB**, or **40 dB**. **Note** As AGC levels are reduced, the threshold ranges for DayToNight and NightToDay are decreased.
DSS (Digital Slow Shutter)	Disable, Low, High	Automatically provides a clear image under low-light conditions. DSS improves the scene brightness. Motion blur might be introduced; this is scene dependent.
Flickerless (not for H3W1F, H4W1F, or HCW1F)	Off, On	Eliminates the “flicker” that can appear in an image under certain lighting conditions (for example, fluorescent lighting). This setting is not available if you have selected ELC.
DNR (Digital Noise Reduction)	Off, On	Improves picture performance in low light by reducing video noise. DNR is deactivated if AGC is turned **Off**.
Day/Night	Auto, Day, Night	Controls True Day/Night (TDN) operation. When **Auto** is selected, the IR-cut filter will be removed automatically in low-light scenes. When **Day** is selected, the IR-cut filter is on at all times. When **Night** is selected, the IR-cut filter is off (removed) at all times.
Night Mode	B/W or Color	Sets the color mode as **B**/**W** (monochrome) or **Color** in Night Mode. Day/Night must be set to **Night**.

Table 6-4 Auto Exposure Settings (cont'd)

Setting	Options	Description
Detect Time	5–60 seconds	Sets the time (**5**–**60** seconds) before the camera switches to Day or Night mode after detecting a low-light condition or a normal light condition, respectively. Day/Night must be set to **Auto**.
DayToNight	1–7	Determines the low light detection level (**1**–**7**) when the camera switches to Night mode. The lower the value, the darker the lighting conditions before the camera switches. Day/Night must be set to **Auto**. **Note** The DayToNight threshold level must be set at least 2 less than the NightToDay threshold setting. **Note** The DayToNight threshold range is decreased if the AGC level is reduced.
NightToDay	3–9	Determines the low light detection level (**3**–**9**) when the camera switches to Day mode. The higher the value, the brighter the lighting conditions before the camera switches. Day/Night must be set to **Auto**. **Note** The NightToDay threshold range is decreased if the AGC level is reduced.
WDR (Wide Dynamic Range) (H3W1F, H4W1F, or HCW1F only)	Off, Low, Medium, High	Wide dynamic range provides clear, balanced images in high-contrast lighting conditions. Set the WDR to **Off**, **Low**, **Medium**, or **High**.
LDC (Lens Distortion Correction) (H3W1F, H4W1F, or HCW1F only)	Off, On	When **On**, LDC reduces picture distortion. The performance of Frame Rate mode might be impacted by LDC.

White Balance

White Balance ensures that color integrity is maintained in the camera image by compensating for the temperature color "casts" that different light sources can cause. Use *Table 6-5* to set up White Balance options.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Table 6-5 White Balance Settings

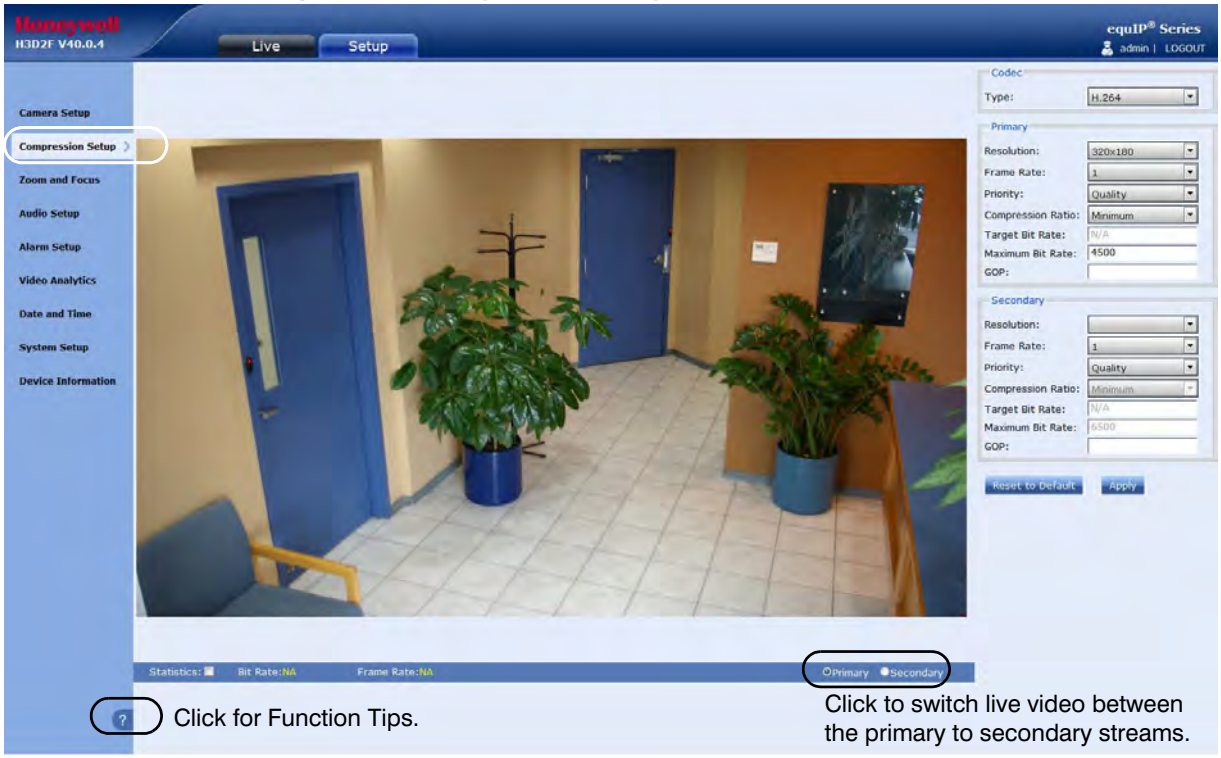
Option	Description
AWC Auto (Auto White Balance Control Mode)	An automatic white balance mode that can be used in scenes which do not have constant lighting.
MWB (Manual Mode)	Manual white balance mode. Set the Red and Blue gains from 0–255.
AWC Push (Auto White Balance Control Mode)	Automatically adjust the white balance to your specific environment. The user can optimize WB for the given scene by pressing and holding an adjustment button. When selected, the white balance is locked. **Note** This setting is recommended for situations in which the light conditions are constant, so that the specified color temperature does not change.

Compression Setup

The video signal sent from the camera to the web client has a number of editable settings which affect how the video displays. The Compression Setup tab enables you to configure these settings:

- Stream Type
- **Enable**/**Disable** the Secondary Stream (Secondary stream only)
- Resolution
- Frame Rate
- Priority (**Quality** or **Bit Rate** or **Frame Rate**)
- Compression Ratio (if **Quality** is chosen as the priority)
- Target Bit Rate (if **Bit Rate** or **Frame Rate** is chosen as the priority)
- Maximum Bit Rate that the camera will provide across the network (if **Quality** is chosen as the priority)
- GOP (number of frames) / Key Frames

Figure 6-33 Compressions Setup Tab

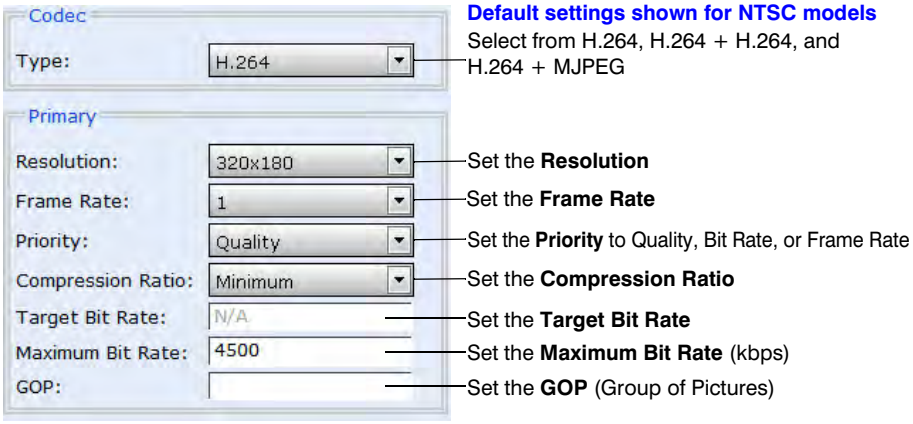


Your ONVIF IP camera supports simultaneous video streams. The Primary stream delivers H.264-compressed video up to 30 fps at 1080p, 720p or other resolutions, dependent on different models. The Secondary stream delivers MJPEG-compressed video up to 30 fps at 640 x 360 resolution or H.264-compressed video up to 30 fps at 1080p, 720p or other resolutions, dependent on different models.

Note If you select 1920 x 1080p resolution for the primary stream for your **H3D2F(X)**, **H4D2F(X)**, or **HCD2F(X)** camera, you can select from all the resolutions except 720p for your secondary stream. If you select 1280 x 720p resolution for the primary stream for your **H3D2F(X)**, **H4D2F(X)**, or **HCD2F(X)** camera, you can select from all the resolutions except 1080p for your secondary stream. See *Configuring the Compression Settings on page 106*.

Primary Stream Video Codec Settings

Figure 6-34 Primary Stream Video Codec Settings



How the different Codec configurations affect camera operation

Selecting different Codec types/configurations allows/limits different options.

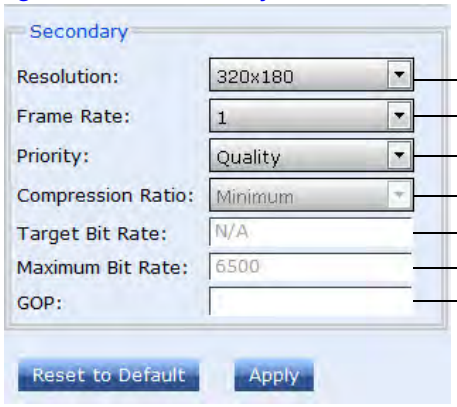
Table 6-6 Codec Configurations and CVBS Availability

Camera Model	Codec Type		
	H.264	H.264 + MJPEG	H.264 + H.264
H3D2F(X), H4D2F(X), and HCD2F(X)	Enable primary H.264, and **CVBS (Local Video Out) is automatically enabled**	Enable primary H.264 and secondary MJPEG, and **CVBS (Local Video Out) is automatically disabled**	Enable primary H.264 and secondary H.624, and **CVBS (Local Video Out) is automatically disabled**
H3D1F(X)/H4D1F(X)/ HCD1F(X)	Enable primary H.264	Enable primary H.264 and secondary MJPEG	Enable primary H.264 and secondary H.624
H3W1F(X)/H4W1F(X)/ HCW1F(X) H3SVP(X)/H3S1P(X)/H4SVP(X)/ H4S1P	**CVBS (Local Video Out) is always enabled**		

Secondary Stream Video Codec Settings

You will have access to the Secondary Stream Video Codec Settings after selecting H.264+H.264 or H.264+MJPEG Codec type.

Figure 6-35 Secondary Stream Video Codec Settings



Default settings shown for NTSC models

- Set the **Resolution**
- Set the **Frame Rate**
- Set the **Priority** to Quality, or Bit or Frame Rate
- Set the **Compression Ratio**
- Set the **Target Bit Rate**
- Set the **Maximum Bit Rate** (kbps)
- Set the **GOP** (Group of Pictures)

Note GOP is not available if you select MJPEG for the secondary stream.

Note Selecting **H.264+H.264** or **H.264 + MJPEG** for **Codec type** disables the local video out (aim and focus). (H3D2F(X), H4D2F(X), or HCD2F(X) only)

Configuring the Compression Settings

1. Use *Table 6-7* to *Table 6-10* to set up the streaming resolution, and *Table 6-11* for the other compression settings.

Table 6-7 Video Streaming Resolutions - 1080p Resolution Primary Stream

Primary Stream Resolutions	Secondary Stream Resolutions	
1920 x 1080	**H.264** 1920 x 1080 1280 x 720 (not supported) 800 x 450 640 x 360 320 x 180	**MJPEG** 640 x 360 320 x 180

Table 6-8 Video Streaming Resolutions - 720p Resolution Primary Stream

Primary Stream Resolutions	Secondary Stream Resolutions	
1280 x 720	**H.264** 1920 x 1080 (not supported) 1280 x 720 800 x 450 640 x 360 320 x 180	**MJPEG** 640 x 360 320 x 180

Table 6-9 Video Streaming Resolutions - 1080p Resolution Secondary Stream

Primary Stream Resolutions	Secondary Stream Resolutions	
1920 x 1080 1280 x 720 (not supported) 800 x 450 640 x 360 320 x 180	**H.264** 1920 x 1080	**MJPEG** 640 x 360 320 x 180

Table 6-10 Video Streaming Resolutions - 720p Resolution Secondary Stream

Primary Stream Resolutions	Secondary Stream Resolutions	
1920 x 1080 (not supported) 1280 x 720 800 x 450 640 x 360 320 x 180	**H.264** 1280 x 720	**MJPEG** 640 x 360 320 x 180

Table 6-11 Compression Settings

Setting	Options	Description
Frame Rate	1–30 (NTSC) 1–25 (PAL)	The frame rate that is displayed per second. For NTSC, select from **1** fps (lowest) to **30** fps (highest). For PAL, select from **1** fps (lowest) to **25** fps (highest).
Priority	Quality, Bit Rate, Frame Rate	The video codec settings offer three priority modes: **Quality**, **Bit Rate**, and **Frame Rate**. The mode you use depends on whether your operational priority is picture quality or bit rate or frame rate. For more on these settings, please see *Configuring Priority Settings: Quality, Bit Rate, and Frame Rate on page 108*.
Compression Ratio	Minimum, Low, Medium, High, Maximum	When Quality is selected as the Priority, select the Compression Ratio. **Minimum** is the highest visual quality; **Maximum** is the lowest visual quality.
Target Bit Rate (kbps)	250 – 7000 kbps	Enter the Target Bit Rate in kbps (kilobits per second) which represents the amount of data streamed per second, when selecting **Bit Rate** or **Frame Rate** as priority. For more on these settings, please see *Configuring Priority Settings: Quality, Bit Rate, and Frame Rate on page 108*.
GOP (No. of Frames)	1– 50	Select the GOP (Group of pictures) number from **1** to **50**. (Not available on the Secondary MJPEG Stream.)
Maximum Bit Rate	250-7000 kbps	Enter the Maximum Bit Rate in kbps (kilobits per second), which represents the amount of data processed per second, when selecting **Quality** as priority. For more on these settings, please see *Configuring Priority Settings: Quality, Bit Rate, and Frame Rate on page 108*.

2. Click **Apply**. Adjustments in your compression settings are captured in the statistics. As you make adjustments, the Statistics field acts as a visual reminder of how your settings affect the bit rate, frame rate, and bandwidth usage. See *Statistics: Received Bit Rate and Frame Rate (IE Only) on page 109*.

Note If you change any of the compression settings, you need to click **Apply** for those settings are captured in the statistics.

Configuring Priority Settings: Quality, Bit Rate, and Frame Rate

Honeywell's H.264 cameras use efficient compression technology to provide high picture quality at minimal bandwidth.

The default settings are based on typical user requirements and settings and are adequate for most scenes. However, scenes with higher than average motion may require additional configuration.

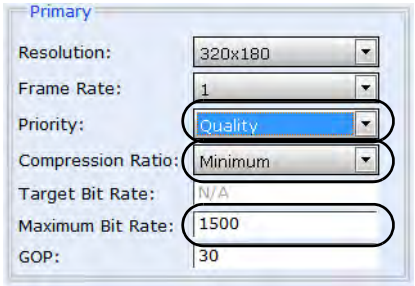
Table 6-12 Selecting Quality, Bit Rate, or Frame Rate

Select this Priority field setting	Field Setting	Description
Quality (see *Selecting Quality for Priority on page 108*)	Maximum Bit Rate The Target Bit Rate field is grayed out.	The camera maintains the picture quality until the bit rate delivered exceeds the Maximum Bit Rate (MBR), at which point the camera drops frames to ensure that the MBR is not exceeded.
Bit Rate (see *Selecting Bit Rate for Priority on page 109*)	Target Bit Rate Maximum Bit Rate and Compression Ratio fields are grayed out.	The camera adjusts the picture quality to ensure that the bit rate delivered does not exceed the Target Bit Rate (TBR), at which point the camera drops frames to ensure that the TBR is not exceeded.
Frame Rate (see *Selecting Frame Rate for Priority on page 109*)	Target Bit Rate Maximum Bit Rate and Compression Ratio fields are grayed out.	The camera maintains the selected frame rate while adjusting image quality to meet the TBR. This mode allows the actual bit rate to fluctuate beyond the user-defined TBR while maintaining the selected frame rate.

Selecting Quality for Priority

When **Quality** is selected as the priority, you can adjust the **Compression Ratio** and/or the **Maximum Bit Rate**.

Figure 6-36 Quality Settings



Quality is selected.

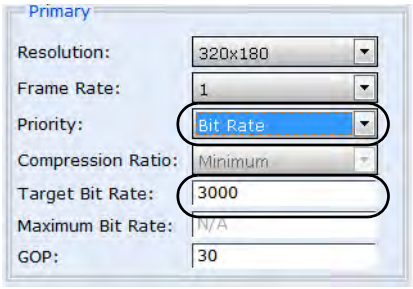
Compression Ratio Default setting is **Medium**. Selecting **Minimum** or **Low** will increase overall picture quality and increased delivered bit rate.

Maximum Bit Rate If the maximum bit rate exceeds the current threshold, the frame rate will drop.

Selecting Bit Rate for Priority

When **Bit Rate** is selected as the priority, you can adjust the **Target Bit Rate**.

Figure 6-37 Bit Rate Settings



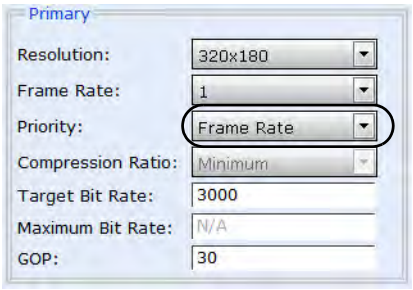
Bit Rate is selected.

Target Bit Rate — Increasing or decreasing the target bit rate threshold will increase or decrease the picture quality accordingly. If the target bit rate is exceeded, the frame rate will drop.

Selecting Frame Rate for Priority

When **Frame Rate** is selected as the priority, you can adjust the **Target Bit Rate**.

Figure 6-38 Frame Rate Settings



Frame Rate is selected.

Target Bit Rate — Increasing or decreasing the target bit rate threshold will increase or decrease the picture quality accordingly. This priority allows the actual bit rate to fluctuate beyond the Target Bit Rate.

Statistics: Received Bit Rate and Frame Rate (IE Only)

To view in real time the received bit rate and frame rate statistics of the current image:

1. Click the **Compression Setup** tab.
2. Click the box to enable the **Statistics** area.

Figure 6-39 Statistics

Deselecting the check box disables the refresh rate.

Note The Statistics check box is disabled by default. When you log out, this check box reverts to the disabled state.

Zoom & Focus (H3D2F(X) and H4D2F(X) models only)

For your convenience, these cameras allow you to remotely adjust the zoom and focus.

Figure 6-40 Zoom & Focus Tab

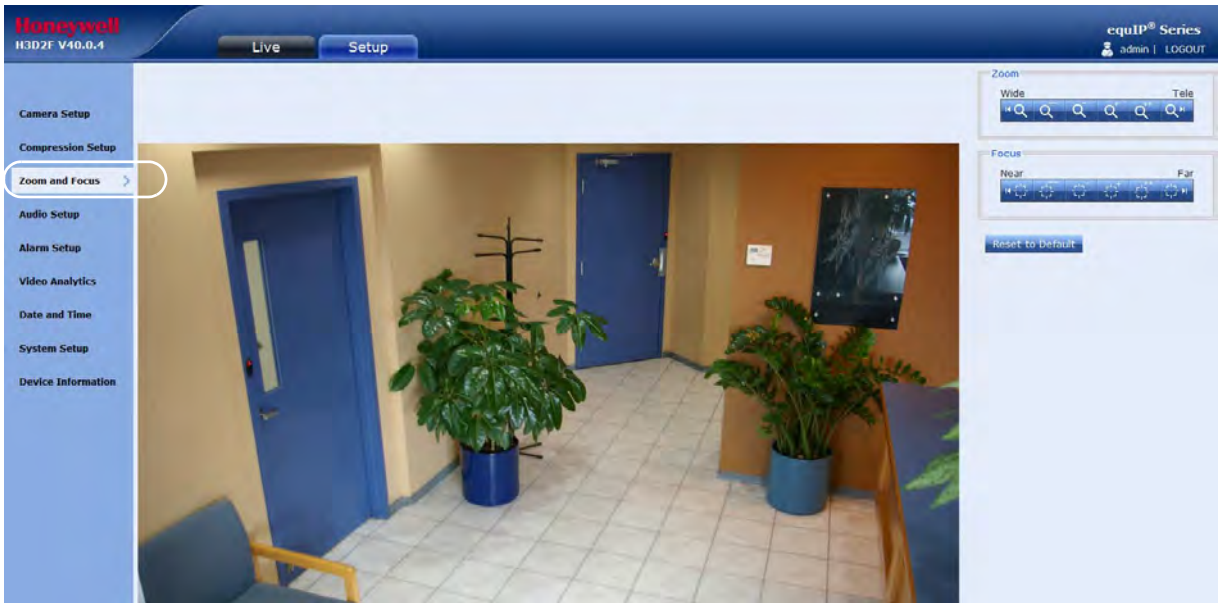
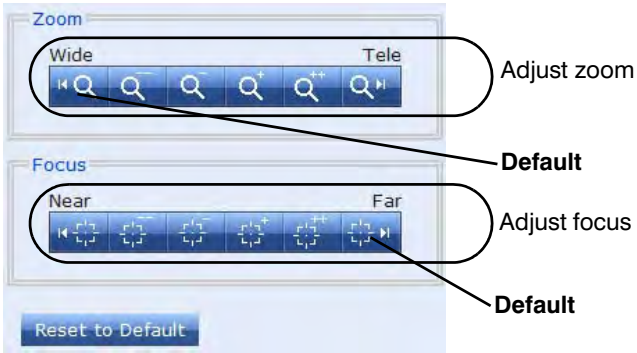


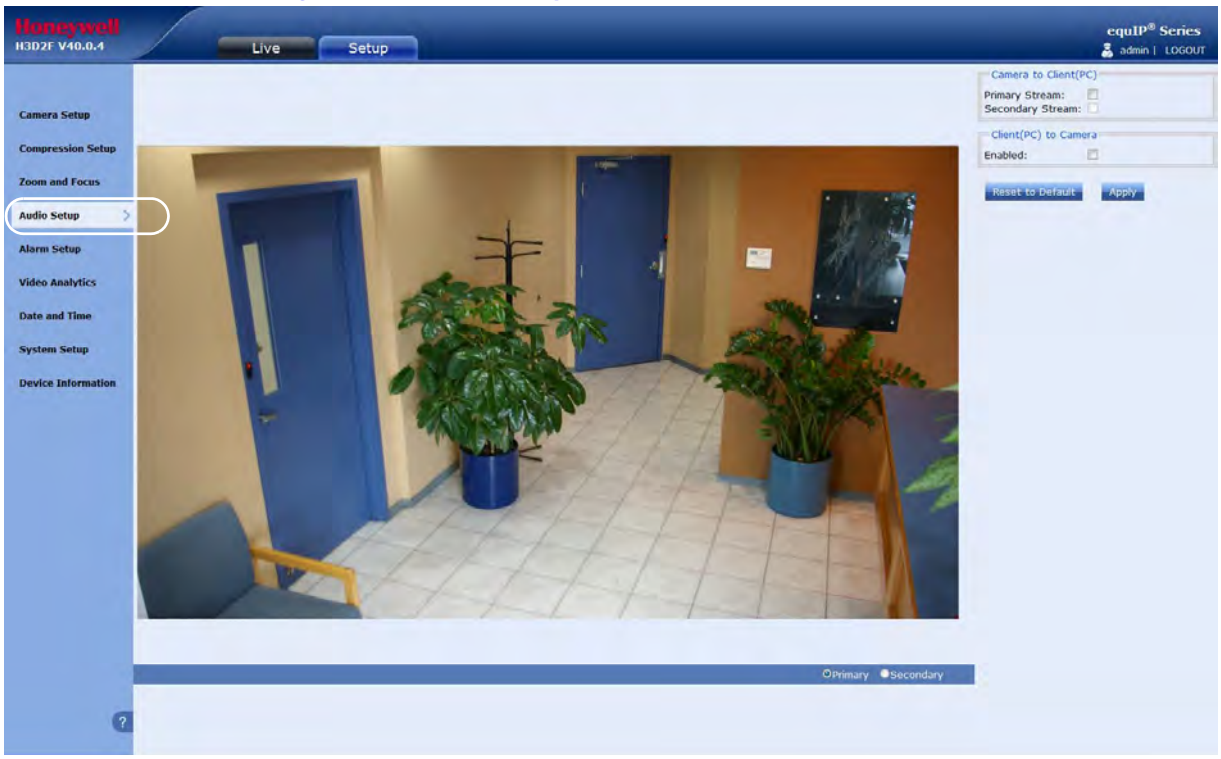
Figure 6-41 Zoom & Focus Controls



Note When you click **Reset To Default**, the camera zoom and focus settings return to **Wide** and **Far**.

Audio Setup

Figure 6-42 Audio Setup Tab



Audio Settings

The network camera supports bi-directional audio. There are two supported voice band channels that function in full duplex mode. Connect industry-standard line level audio input and output to the back of your camera.

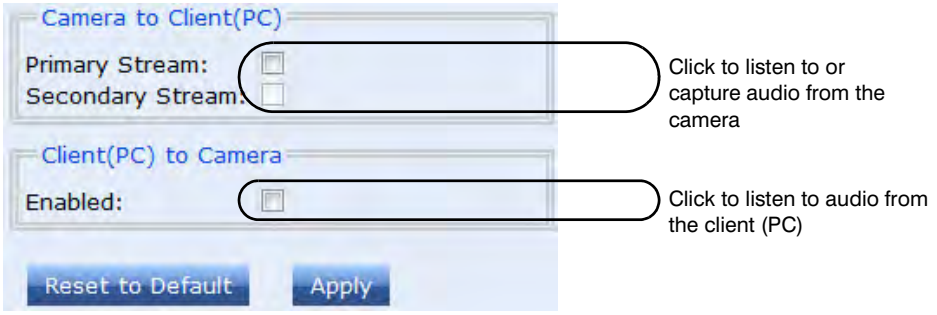
Connecting Audio

For audio connections, please see *Figure 2-3* on *page 28* for box cameras, *Connecting Audio on page 37* for 3-inch minidome cameras, and *Connecting Audio on page 54* for 4-inch minidome cameras.

Configuring Audio Settings

Audio configuration for your network camera is straightforward.

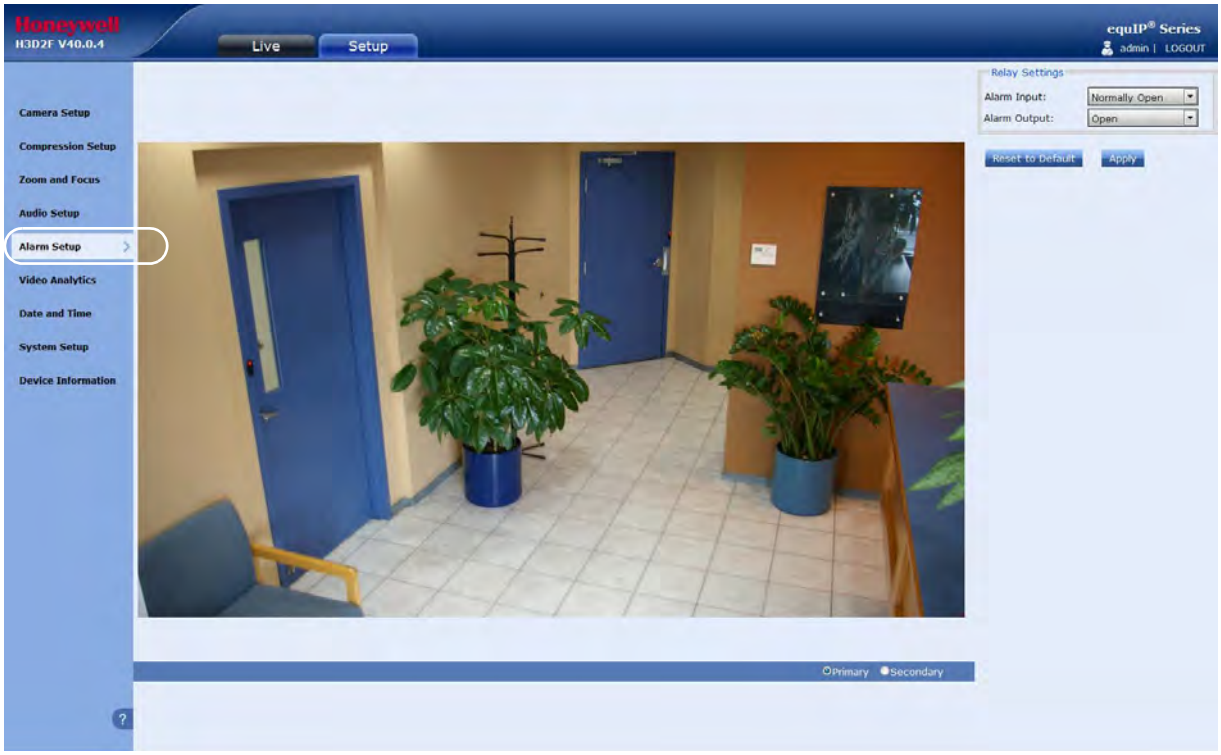
Figure 6-43 Audio Settings



Note At this time, **Client(PC) to Camera** is not available for Google Chrome and Mozilla Firefox.

Alarm Setup

Figure 6-44 Alarm Setup Tab



Alarm Settings

Connect external devices, such as sirens or flashing lights, to the alarm output connector to signal camera users that an alarm is activated. Set the Alarm Output as **Normally Open** or **Normally Close**.

Connecting Alarms

For alarm connections, please see *Figure 2-3* on *page 28* for box cameras, *Connecting Alarms on page 37* for 3-inch minidome cameras, and *Connecting Alarms on page 54* for 4-inch minidome cameras.

Configuring Alarms

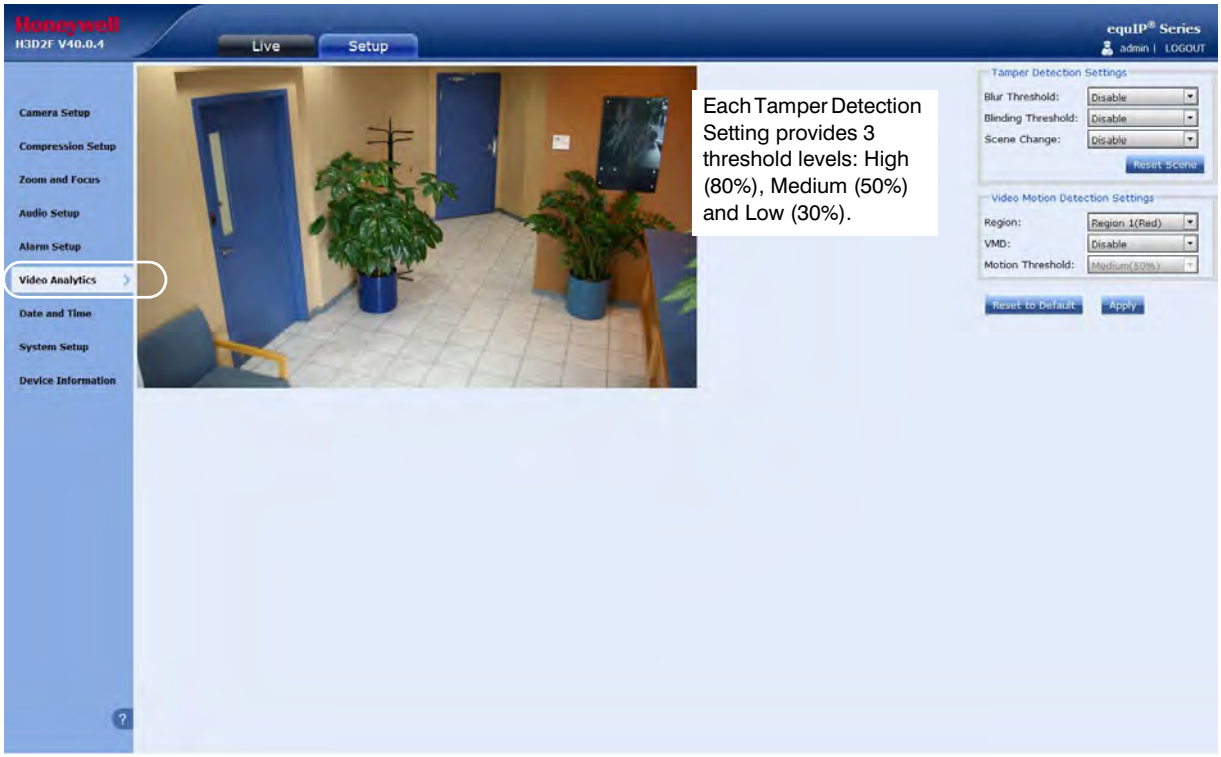
Your camera has one alarm input and one alarm output. Connect mechanical or electrical switches to the alarm input connection to allow event-triggered recording. When alarm inputs are configured, your camera triggers an alarm only when the normal alarm state (open or closed) changes.

An alarm message appears on the web client screen (see *Figure 6-47*).

Video Analytics

Your ONVIF IP camera can be configured to detect camera sabotage and motion within a scene via the Video Analytics tab (see *Figure 6-45*). The Video Analytics tab enables a user to set the tamper detection threshold settings for blur, blinding, and scene changes.

Figure 6-45 Video Analytics Tab

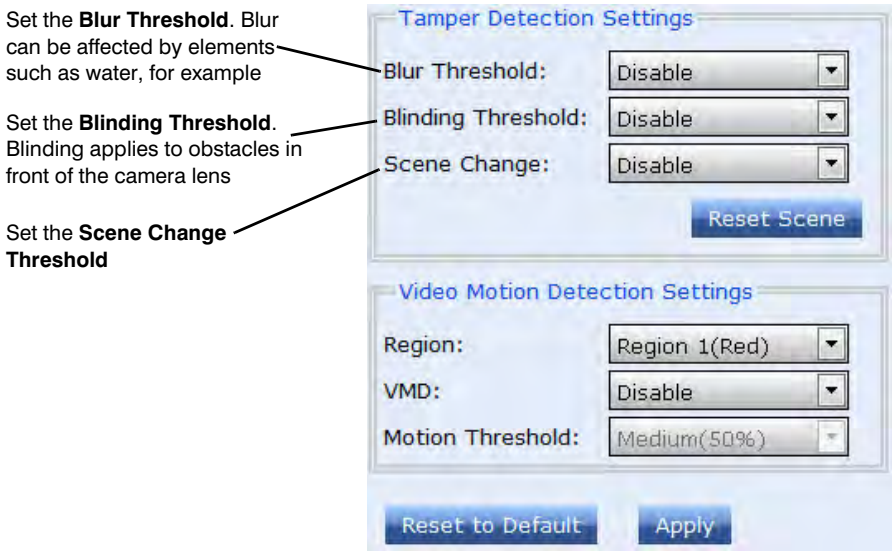


Each setting has three threshold levels: high (80%), medium (50%) and low (30%). When these thresholds are exceeded, camera sabotage or motion is detected, and alarm messages appear above the video display and alarm signals are sent to DVRs/NVRs (see *Figure 6-47*).

Note The video analytics screen shows a static video snapshot instead of live video. For this reason, you should open a second web client window for monitoring live video.

Tamper Detection

Figure 6-46 Tamper Detection Settings on the Video Analytics Tab



There are three types of sabotage detection in the Tamper Detection Setting tab on the Video Analytics tab:

- Blinding the camera
- Blurring the video display
- Tampering with the camera field of view

When the following conditions are applicable, the tamper detection features should be manually disabled to avoid raising false alarms:

- During the configuration of the video display
- While text is overlaid on the video
- If the video display becomes too dark

Figure 6-47 Video Analytics Alarm Message

Configuring Video Blur Detection

The video appears blurred when the camera is exposed to elements such as water or when the lens focus is set incorrectly. When this occurs, video blurring in the field of view is detected and an alarm message appears (see *Figure 6-47*) above the video display. To detect video blurring:

1. Click the **Video Analytics** tab.

2. In the **Blur Threshold** list, select one of the following options:

Table 6-13 Blur Threshold Values

Value	To detect …
High (80%)	Maximum video blurring. The alarm message appears when the video display is blurred by 80% or more.
Medium (50%)	Medium video blurring. The alarm message appears when the video display is blurred by 50% or more.
Low (30%)	Minimum video blurring. The alarm message appears when the video display is blurred by 30% or more.

3. Click **Apply**.

Note To turn off video blur detection, select **Disable** in the **Blur Threshold** list. **Disable** is the default value.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Configuring Camera Blinding Detection

An obstacle in front of the camera lens can blind the camera. When this occurs, camera blinding is detected and an alarm message appears above the video display (see *Figure 6-47*). To detect camera blinding:

1. Click the **Video Analytics** tab.
2. In the **Blinding Threshold** list, select one of the following options:

Table 6-14 Blinding Threshold Values

Value	To detect …
High (80%)	Maximum blinding. The alarm message appears when your camera is blinded by 80% or more.
Medium (50%)	Medium blinding. The alarm message appears when your camera is blinded by 50% or more.
Low (30%)	Minimum blinding. The alarm message appears when your camera is blinded by 30% or more.

3. Click **Apply**.

Note To turn off camera blinding detection, select **Disable** in the **Blinding Threshold** list. **Disable** is the default value.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Configuring Camera Field of View Change Detection

The web client application can detect tampering of the camera field of view and show an alarm message above the video display (see *Figure 6-47*).

Note Before changing the current Scene Change settings, you must click **Reset Scene**.

Note Camera Field of View change detection works best detecting objects with sharp edges and/or corners. Environments that are flat and/or monochrome might trigger false alarms.

To detect a change in the camera field of view:

1. Click the **Video Analytics** tab.
2. In the **Scene Change Threshold** list, select one of the following options:

Table 6-15 Scene Change Threshold Values

Value	To detect …
High (80%)	Maximum change in the camera field of view. The alarm message appears when tampering causes at least an 80% change in your camera field of view.
Medium (50%)	Medium change in the camera field of view. The alarm message appears when tampering causes at least a 50% change in your camera field of view.
Low (30%)	Minimum change in the camera field of view. The alarm message appears when tampering causes at least a 30% change in your camera field of view.

3. Click **Apply**.

Note To turn off camera field of view change detection, select **Disable** in the **Scene Change Threshold** list. **Disable** is the default value.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Configuring Video Motion Detection

Note The video analytics screen shows a static video snapshot instead of live video. For this reason, you should open a second web client window for monitoring live video.

For motion detection, an Administrator can enable and configure up to 5 zones within a scene. The enabled and configured zones will be monitored for motion.

1. Click the **Video Analytics** tab in the web client user interface.
2. Click the **Region** drop-down menu in the **Video Motion Detection** pane, then select a region from the five available.
3. Click the **VMD** drop-down arrow, and select **Enable**.

   The Regions appear in their default positions.
4. Click and drag the box to resize and place it over the camera image.

   This box is the region of interest.
5. Select the sensitivity level: 30% (most sensitive), 50% (medium sensitivity), or 80% (least sensitive).

   We recommend that you use the medium sensitivity at 50% as the initial setting. It can be further adjusted as explained in *Fine Tuning Video Motion Detection on page 119*.
6. Click **Apply**.

Note To ensure that the VMD settings have been applied, click onto another tab, and then back onto the **Video Settings** tab. Check the VMD settings for the changes you made.

Note To disable a zone, click the **VMD** drop-down menu, then select **Disable**.

Fine Tuning Video Motion Detection

For best results, the VMD configuration has to be adjusted to match the camera field of view, the regions of interest, and other factors.

1. Identify areas in the image where motion detection alarms should be triggered.

   In some applications, motion anywhere in the image needs to be reported. In other applications, users only want to monitor specific areas such as doors, stairwells, or other areas of interest.

2. Select one of the five available regions for each area of interest, and draw the region-of-interest box for that region to fully cover the area of interest.

Note The camera only measures motion inside the drawn region-of-interest box. So a person or vehicle moving along the boundary of the box may or may not trigger an alarm, because their motion will only be evaluated partially. It is therefore important to adjust the region-of-interest boxes to fully cover the areas of interest.

   In cameras with a wide field of view, or when activity happens far away from the camera, people and vehicles might appear rather small in the image. In such cases, it might not be possible to apply a single area of interest to the whole field of view and reliably detect motion. In such cases, it is recommended to cover the camera view with multiple, smaller region-of-interest boxes, and to concentrate on areas where motion alarms are of most interest to the user, such as entrances, restricted access areas, etc.

3. Use the medium sensitivity at 50% as the initial setting. It can be further adjusted as explained below.

Note Observe VMD performance in all expected lighting conditions after the initial configuration is applied. Ensure that relevant scene motion does trigger alarms and ensure that the camera is not reporting false alarms (such as VMD alarms triggered due to image noise).

Increasing VMD sensitivity

If relevant scene motion does not trigger VMD alarms, the following adjustments will increase VMD sensitivity:

- Decreasing the sensitivity level from 80% to 50%, or from 50% to 30%. This change will cause smaller objects to trigger alarms and it will also require smaller contrast level to report and alarm. This should be the primary adjustment mechanism.
- Reducing the size of the region-of-interest box (and adding more regions if needed). This adjustment will cause smaller objects to also trigger VMD alarms.

Note After VMD sensitivity is increased, observe the performance in other lighting conditions in case further tuning is required to prevent false alarms.

Decreasing VMD sensitivity

If VMD alarms are triggered even when there is no motion and no significant changes in the video, the following adjustments will decrease VMD sensitivity:

- Increasing the sensitivity level from 30% to 50%, or from 50% to 80%. This should be the primary adjustment mechanism, because it increases the required contrast level (or amount of noise) required to trigger an alarm. Higher sensitivity levels also require significant amounts of motion to be observed before a VMD alarm is triggered.
- Increasing the size of the region-of-interest box. This adjustment will prevent smaller objects (or smaller areas of noise) from triggering VMD alarms.

VMD configuration examples

These examples are provided only for illustration. Other factors such as lighting level, contrast, and image noise might affect VMD performance and might require tuning adjustments as described above.

Normal Field of View

In a normal field of view, with a person walking in front of the camera, the maximum recommended region-of-interest box sizes would be as shown by the red boxes in *Figure 6-48*, *Figure 6-49*, and *Figure 6-50*.

Figure 6-48 Video Motion Detection Configuration - 30% Sensitivity Level

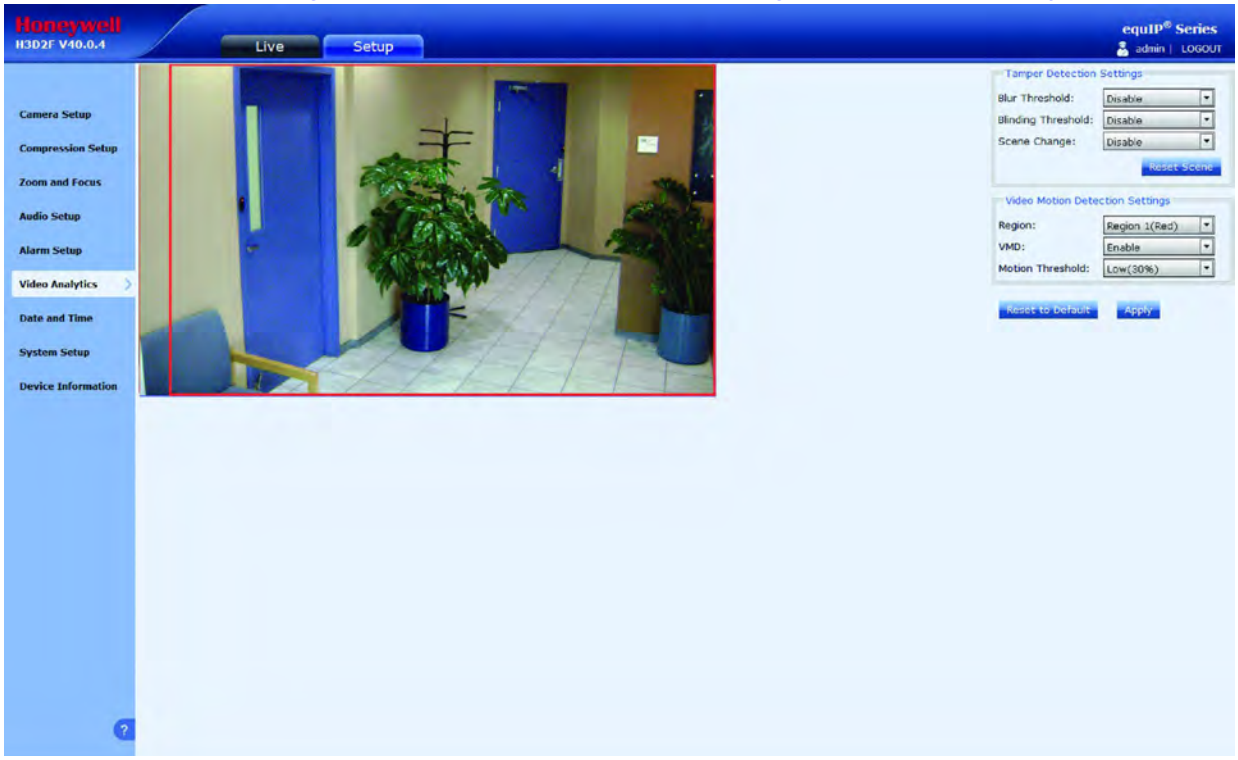


Figure 6-49 Video Motion Detection Configuration - 50% Sensitivity Level

Figure 6-50 Video Motion Detection Configuration - 80% Sensitivity Level

Wide Field of View

In a wide field of view camera, the car shown below would be expected to trigger an VMD alarm in the VMD region-of-interest box size is not larger than indicated by the red box:

Figure 6-51 VMD Configuration Example - 30% Sensitivity Level for a Wide Field of View

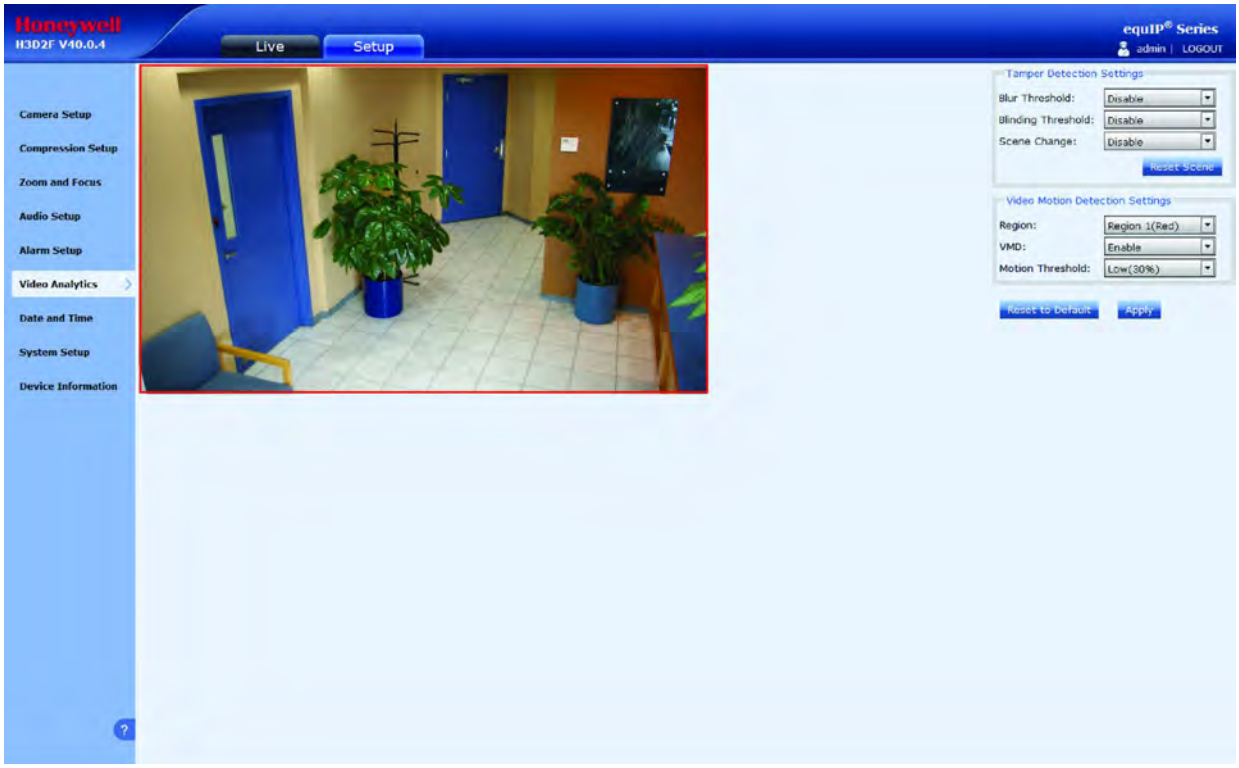


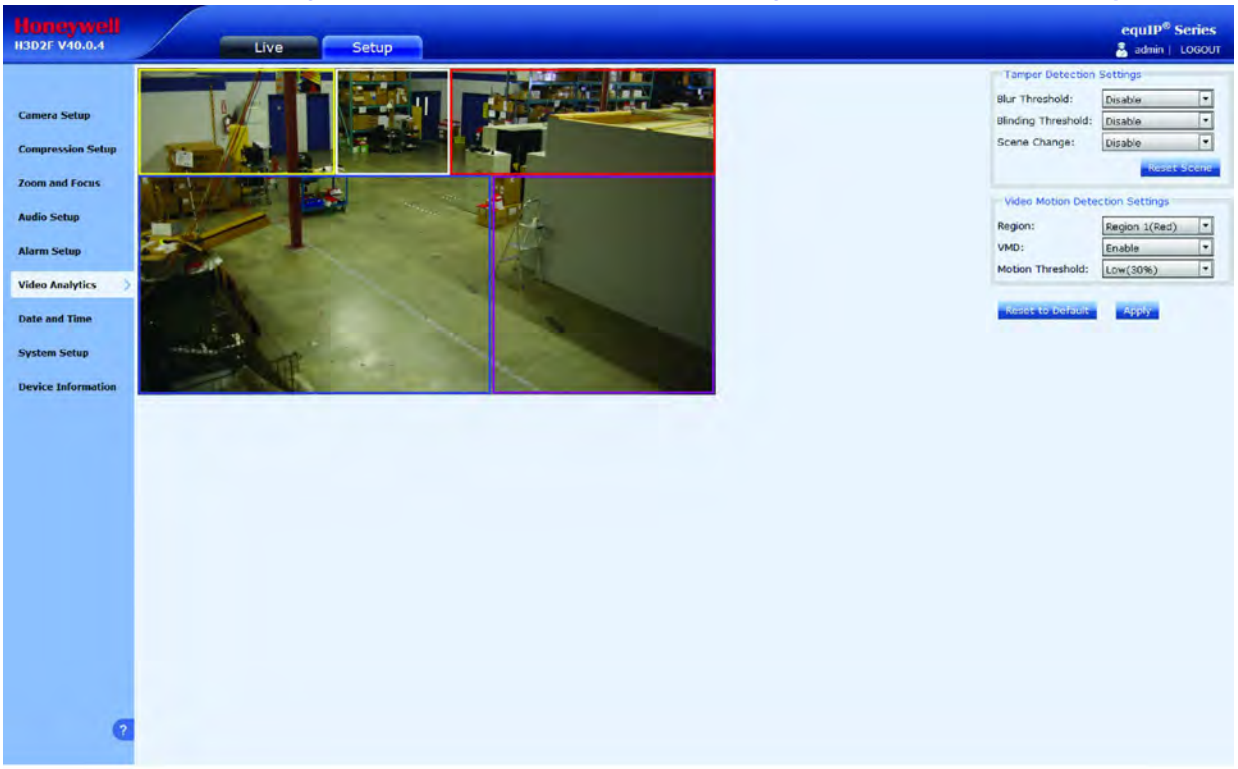
Figure 6-52 VMD Configuration Example - 50% Sensitivity Level for a Wide Field of View

Figure 6-53 VMD Configuration Example - 80% Sensitivity Level for a Wide Field of View

For cameras with a wide-angle field of view covering a larger scene, people who walk far away from the camera might appear rather small in the image. If motion needs to be detected in the entire field of view, the following region-of-interest box configuration is recommended:

- Three smaller boxes, set to 30% sensitivity, covering the upper portion of the image where people appear small.
- Two larger boxes, set to 50% sensitivity, covering the lower portion of the image where objects appear larger.

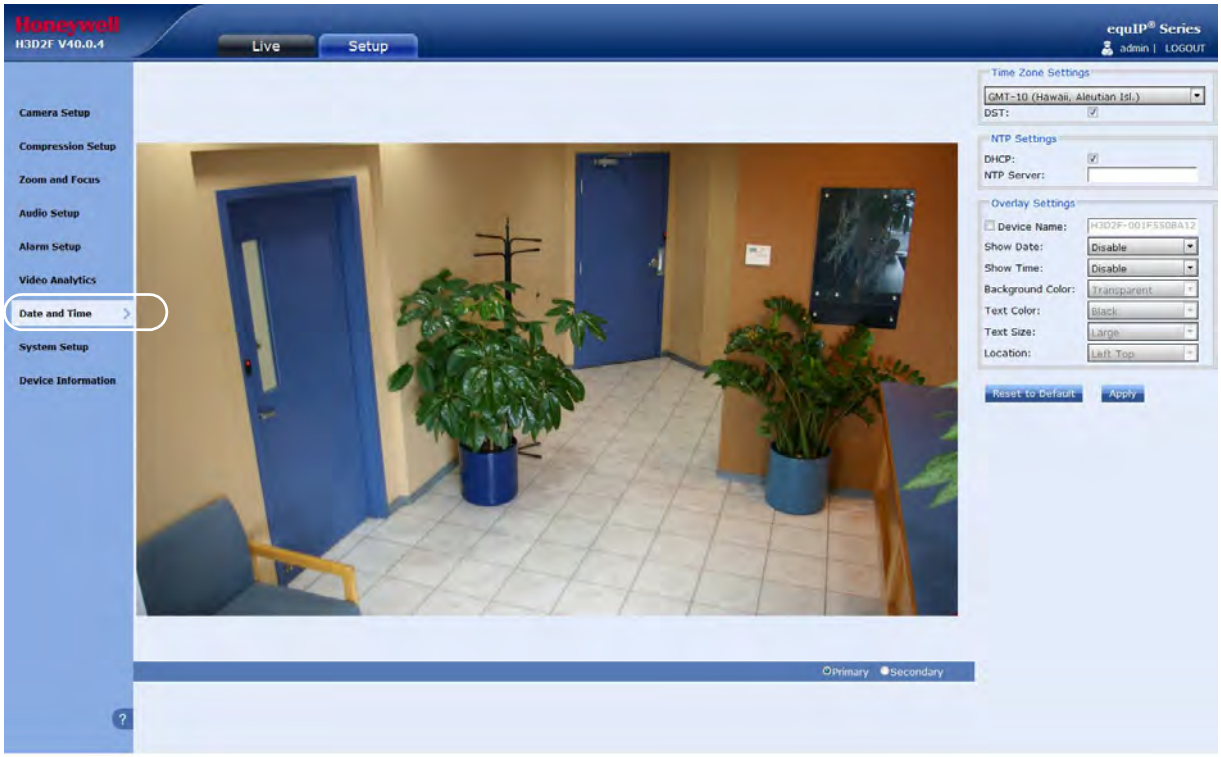
Figure 6-54 Video Motion Detection Configuration - A Combination Setup



Date and Time

The Date and Time tab allows you to select the Time Zone, configure the NTP Server, and configure the GUI overlays.

Figure 6-55 Date and Time Tab



Time Zone Settings

From the drop-down menu, select the most appropriate time zone for your location.

Figure 6-56 Time Zone Settings Panel

Click to activate/deactivate automatic compensation for Daylight Saving Time.

NTP Settings

Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.

Note Some anti-virus software, such as McAfee, will force stop the NTP service. Please contact your local IT administrator and check your anti-virus software filtering policy before using an NTP service.

Honeywell ONVIF cameras use NTP to synchronize camera time with an NTP server. There are two ways to configure NTP:

- Use a DHCP Server to set the NTP server address
- Specify an NTP server IP address for time synchronization

Figure 6-57 NTP Settings Pane

Synchronizing Time through a DHCP Server

Click to enable **DHCP** in the **NTP** pane on the **Date and Time** page.

The camera will try to use your DHCP server to set the NTP server address. Please contact your local network administrator to ensure your DHCP server has either installed and enabled the NTP server in your workstation or configured the DHCP server to send NTP server address(es) to clients (most cases).

Synchronizing Time by Specifying an NTP Server IP Address

There are two ways you can specify an NTP server IP address:

- Public NTP server
- Local NTP server

Using a Public NTP Server to Synchronize Time

Search through Google for a Public NTP server IP address, then copy and paste the **IP address** in the **NTP Server** field in the **NTP** pane on the **Date and Time** page. See *Figure 6-57*.

Note Please ensure that your network settings and firewall don't block this public NTP server. Contact your local administrator to ensure this before using Public NTP server.

Using a Local NTP Server to Synchronize Time

Use your local NTP server in your network. If you don't have a local NTP server, see *Installing the NTP Service*.

Installing the NTP Service

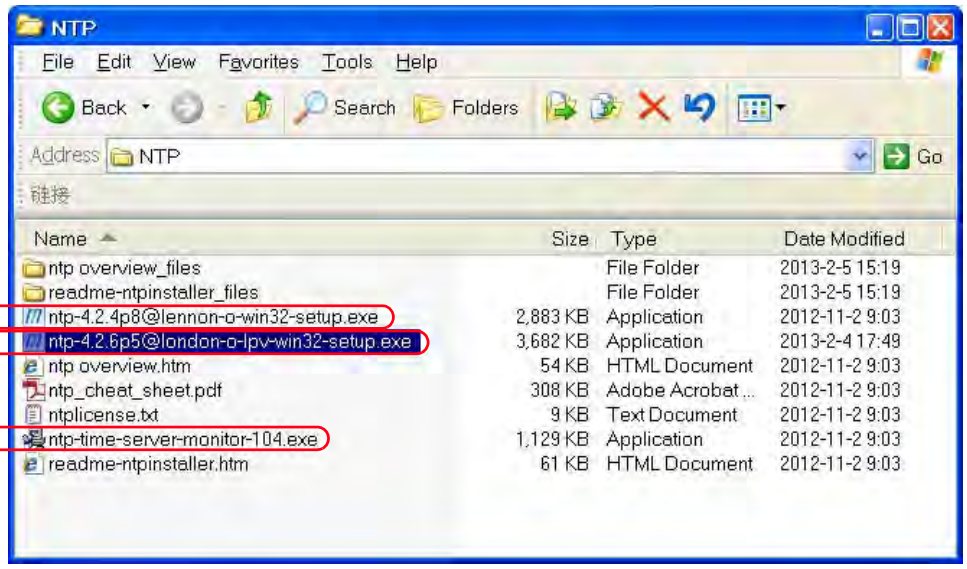
The NTP Service should be installed on an NVR or a client PC so it is available to use with Honeywell ONVIF cameras.

On the software DVD that you received with your camera, we have included the **Meinberg Network Time Protocol** (NTP) software which can keep the computer clock synchronized with an external time source (typically another computer running an NTP server). The NTP software can also act as an NTP server from which other computers can synchronize.

To install the NTP service:

1. On the Honeywell ONVIF cameras software DVD, find the **NTP Software** folder,

Figure 6-58 Finding the NTP Software Files


NTP
File Edit View Favorites Tools Help
Back Search Folders
Address NTP
Go
Name Size Type Date Modified
ntp overview_files File Folder 2013-2-5 15:19
readme-ntpinstaller_files File Folder 2013-2-5 15:19
ntp-4.2.4p8@lennon-o-win32-setup.exe 2,883 KB Application 2012-11-2 9:03
ntp-4.2.6p5@london-o-lpv-win32-setup.exe 3,682 KB Application 2013-2-4 17:49
ntp overview.htm 54 KB HTML Document 2012-11-2 9:03
ntp_cheat_sheet.pdf 308 KB Adobe Acrobat ... 2012-11-2 9:03
ntplicense.txt 9 KB Text Document 2012-11-2 9:03
ntp-time-server-monitor-104.exe 1,129 KB Application 2012-11-2 9:03
readme-ntpinstaller.htm 61 KB HTML Document 2012-11-2 9:03

There are three setup files in this folder:

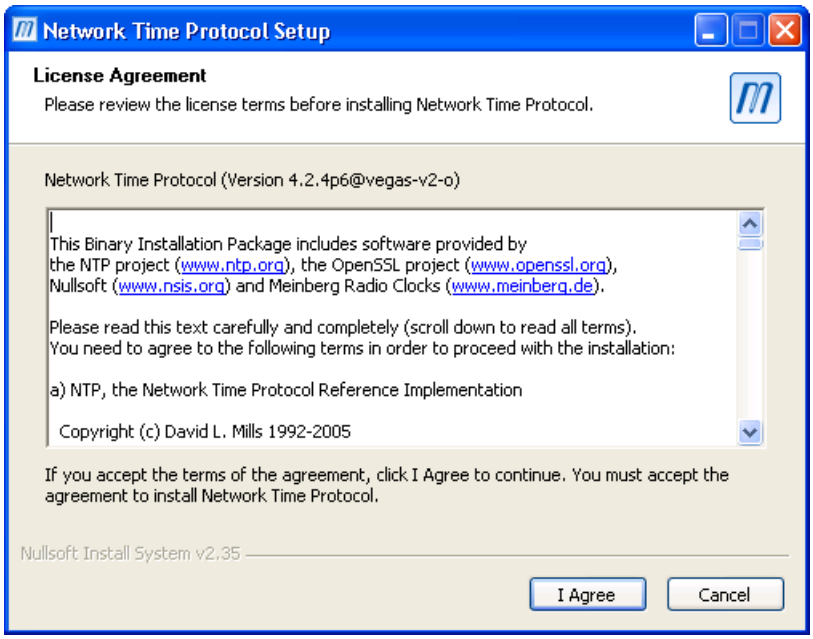
Table 6-16 NTP Software Setup Files

File	Description
ntp-4.2.6p5@london-o-Ipv-win32-setup.exe	NTP installation package with IPv6 support for XP / 2003 Server / Vista / Win 7 / Win Server 2008
ntp-4.2.4p8@lennon-o-Ipv-win32-setup.exe	NTP installation package for NT / 2000 (IPv4 only)
ntp-time-server-monitor-1.04.exe	An additional NTP Time Server Monitor program (optional) available for the Windows operating system, it allows configuration of the local NTP service and graphical monitoring of the local and also remote NTP servers.

For most situations, click **ntp-4.2.6p5@london-o-Ipv-win32-setup.exe** to install the **Meinberg Network Time Protocol** (NTP) software on your WIN XP / 2003 Server/ Vista / Win 7 / Win Server 2008 machine.

2. The License Agreement screen appears. Read the license agreement, then click **I Agree** to continue.

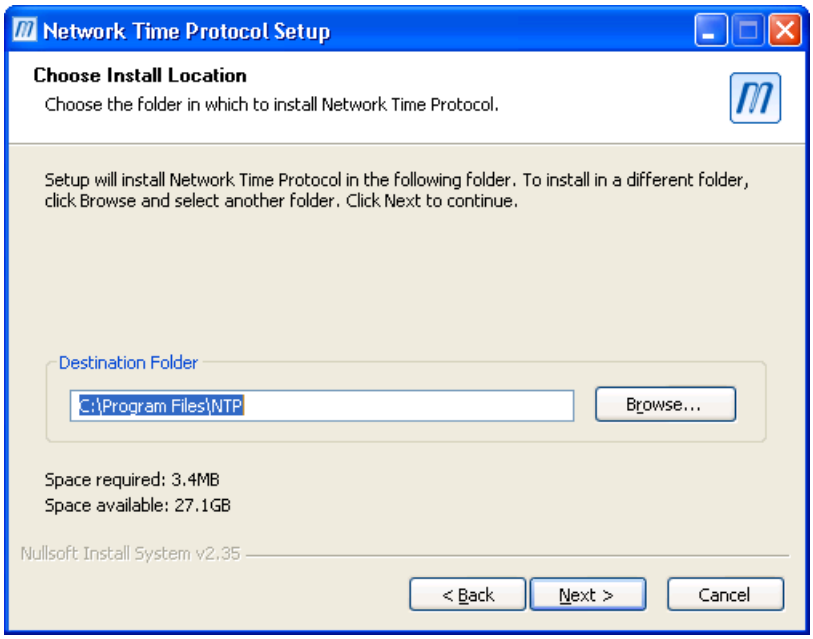
Figure 6-59 NTP Software License Agreement


Network Time Protocol Setup
License Agreement
Please review the license terms before installing Network Time Protocol.
Network Time Protocol (Version 4.2.4p6@vegas-v2-o)
This Binary Installation Package includes software provided by
the NTP project (www.ntp.org), the OpenSSL project (www.openssl.org),
Nullsoft (www.nsis.org) and Meinberg Radio Clocks (www.meinberg.de).
Please read this text carefully and completely (scroll down to read all terms).
You need to agree to the following terms in order to proceed with the installation:
a) NTP, the Network Time Protocol Reference Implementation
Copyright (c) David L. Mills 1992-2005
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Network Time Protocol.
Nullsoft Install System v2.35
I Agree
Cancel

Note As the installation proceeds, click **Next** on each screen to continue.

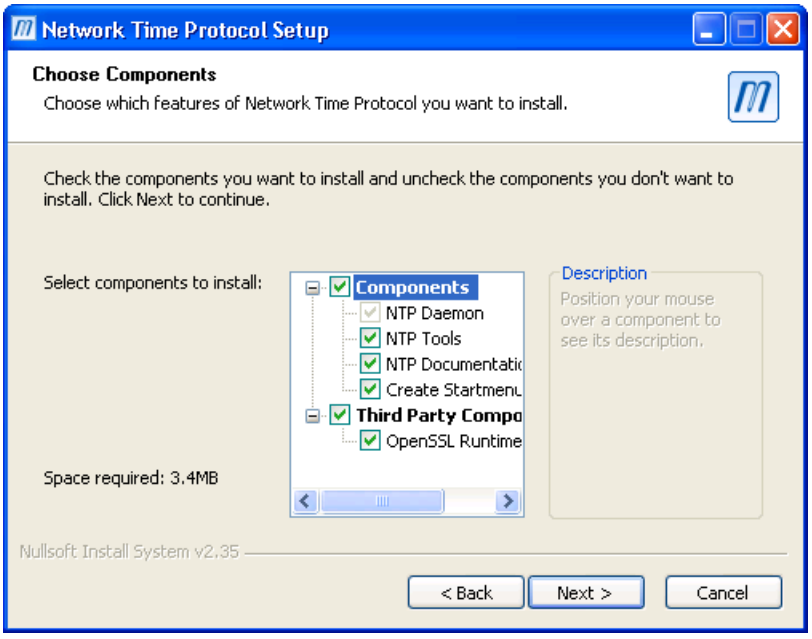
3. On the **Choose Install Location** screen, click **Next** to accept the default directory, or **Browse** to select another directory.

Figure 6-60 Choosing the NTP Software Installation Location


Network Time Protocol Setup
Choose Install Location
Choose the folder in which to install Network Time Protocol.
Setup will install Network Time Protocol in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
Destination Folder
C:\Program Files\NTP
Browse...
Space required: 3.4MB
Space available: 27.1GB
Nullsoft Install System v2.35
< Back
Next >
Cancel

4. On the **Choose Components** screen, click **Next** to install the default set of component options (recommended).

Figure 6-61 Following the NTP Software Installation Wizard


Network Time Protocol Setup
Choose Components
Choose which features of Network Time Protocol you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
Components
NTP Daemon
NTP Tools
NTP Documentatic
Create Startmenu
Third Party Compo
OpenSSL Runtime
Description
Position your mouse over a component to see its description.
Space required: 3.4MB
Nullsoft Install System v2.35
< Back
Next >
Cancel

The files will now be installed.

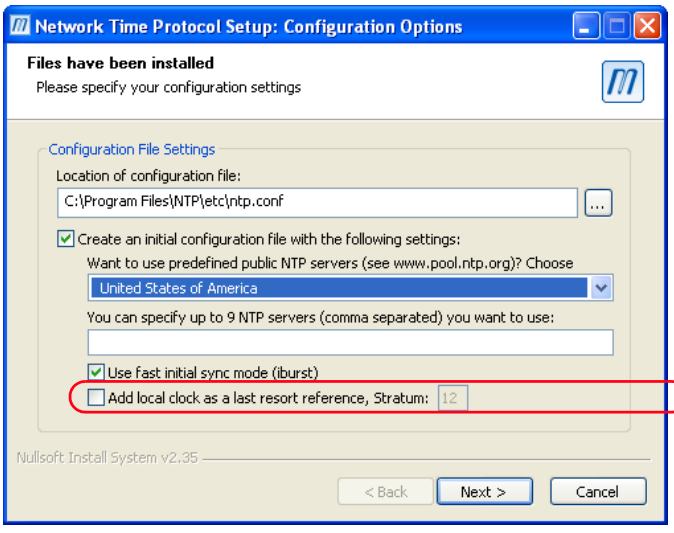
5. On the **Please specify your configuration settings** screen you must do at least one of the following to specify the NTP servers to synchronize with:
   - If the computer can access public internet time servers, then under **Want to use predefined public NTP servers…** select the closest geographic region to where the computer is installed (for example, for USA, select United States of America under North America). If the computer cannot access the public internet (for example, if it is not connected to the internet or if a firewall blocks access to the NTP port), then leave this setting set to **None**.
   - If you want the computer to be able to synchronize with specific private servers (for example, an NTP server on the corporate network or another computer running the Meinberg NTP service), enter those host names or IP addresses under **You can specify up to 9 NTP servers** (comma separated) you want to use. If you specify more than one computer, separate them with commas.
   - If you want the computer to add the local clock as a last resort reference if both of the above options have not worked because your network security settings have blocked them.

   You can set up all three options, if appropriate. The NTP service automatically polls all of them and selects the best one with which to synchronize.

Note If the computers that need to have synchronized clocks all have access to public internet time servers, then you can have all of them synchronize with the same internet time servers. If most of the computers do not have access to an NTP server, then you can select one computer (for example, the Alarm Management Server) to be the time source, and have it access a reliable NTP server, via the internet, corporate intranet, or even hardware radio clock.

Note NTP uses UDP on port 123, so this port must be unblocked on the computer you select to act as the time server for the other computers with which to synchronize.

Figure 6-62 Selecting Add local clock as a last resort reference

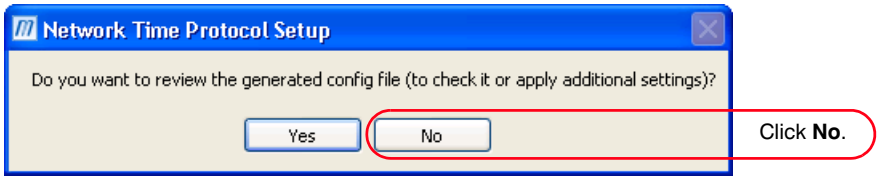

Network Time Protocol Setup: Configuration Options
Files have been installed
Please specify your configuration settings
Configuration File Settings
Location of configuration file:
C:\Program Files\NTP\etc\ntp.conf
Create an initial configuration file with the following settings:
Want to use predefined public NTP servers (see www.pool.ntp.org)? Choose
United States of America
You can specify up to 9 NTP servers (comma separated) you want to use:
Use fast initial sync mode (iburst)
Add local clock as a last resort reference, Stratum: 12
Nullsoft Install System v2.35
< Back
Next >
Cancel

Click to select **Add local clock as a last resort reference, Stratum:**.

Leave the rest of the settings on this screen set to their defaults.

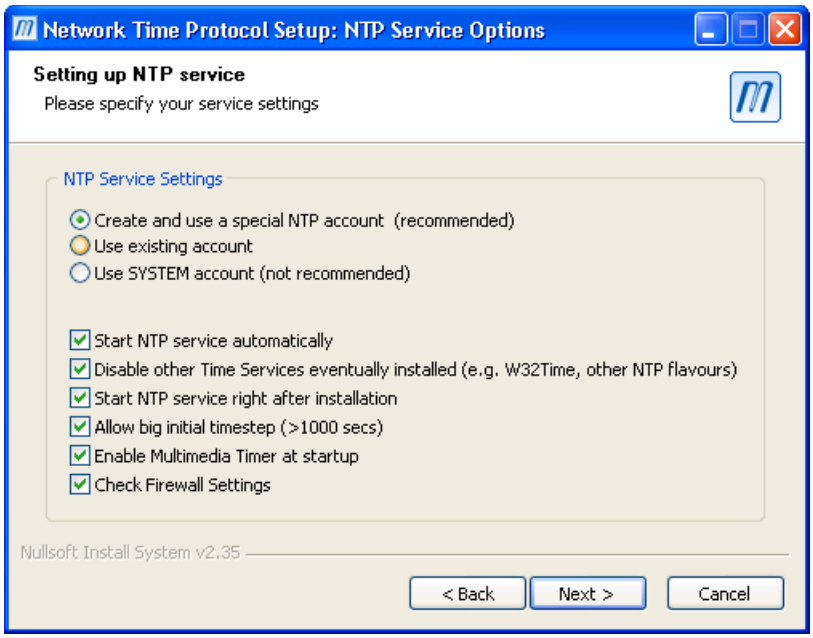
6. When prompted to review the generated confide file, click **No**.

Figure 6-63 Reviewing the Generated NTP File


Network Time Protocol Setup
Do you want to review the generated config file (to check it or apply additional settings)?
Yes
No
Click No.

7. On the **NTP Service Options** screen, accept the defaults as shown below (recommended).

Figure 6-64 Selecting NTP Service Options

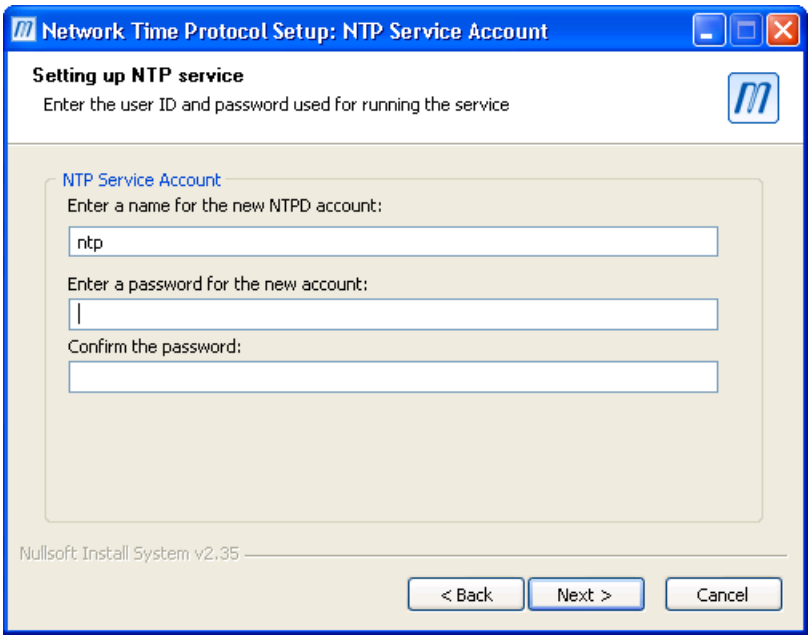

Network Time Protocol Setup: NTP Service Options
Setting up NTP service
Please specify your service settings
NTP Service Settings
Create and use a special NTP account (recommended)
Use existing account
Use SYSTEM account (not recommended)
Start NTP service automatically
Disable other Time Services eventually installed (e.g. W32Time, other NTP flavours)
Start NTP service right after installation
Allow big initial timestep (>1000 secs)
Enable Multimedia Timer at startup
Check Firewall Settings
Nullsoft Install System v2.35
< Back
Next >
Cancel

8. On the **Enter the user ID and password used for running the service** screen enter a password for the NTPD account.

Note Enter a strong security password, such as **ASDFGhjkl;'**, or you will get an error (code 2245).

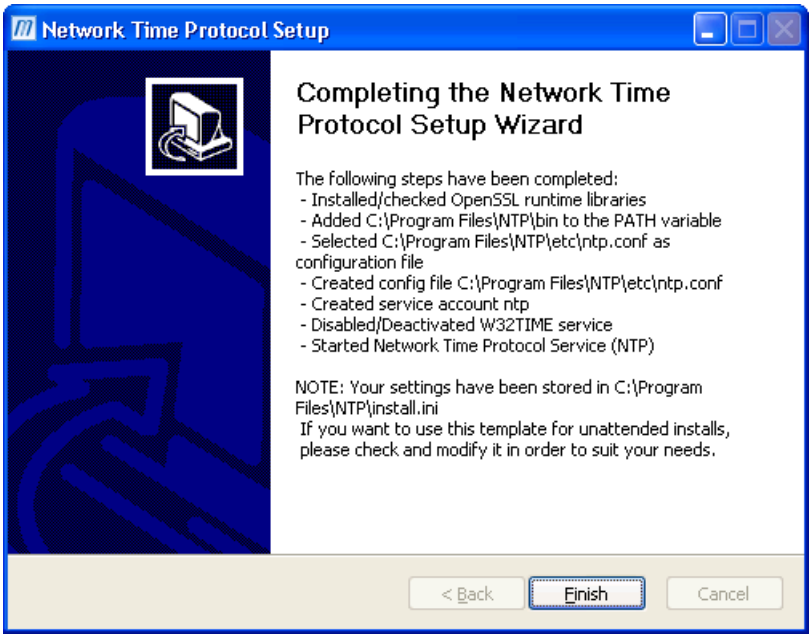
After clicking **Next**, if a message appears indicating that the computer policy does not allow you to create a new user account, click **Back** and select one of the other account options (either **Use existing account** or **Use SYSTEM account**) from the top of the **Please specify your service settings** screen.

Figure 6-65 Setting Up an NTP Service Account


Network Time Protocol Setup: NTP Service Account
Setting up NTP service
Enter the user ID and password used for running the service
NTP Service Account
Enter a name for the new NTPD account:
ntp
Enter a password for the new account:
Confirm the password:
Nullsoft Install System v2.35
< Back
Next >
Cancel

9. The **Completing the Network Time Protocol Setup Wizard** screen indicates a successful installation. Click **Finish**.

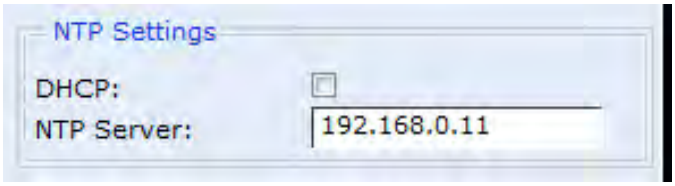
Figure 6-66 Finishing the NTP Software Wizard


Network Time Protocol Setup
Completing the Network Time Protocol Setup Wizard
The following steps have been completed:
- Installed/checked OpenSSL runtime libraries
- Added C:\Program Files\NTP\bin to the PATH variable
- Selected C:\Program Files\NTP\etc\ntp.conf as configuration file
- Created config file C:\Program Files\NTP\etc\ntp.conf
- Created service account ntp
- Disabled/Deactivated W32TIME service
- Started Network Time Protocol Service (NTP)
NOTE: Your settings have been stored in C:\Program Files\NTP\install.ini
If you want to use this template for unattended installs, please check and modify it in order to suit your needs.
< Back
Finish
Cancel

Using the NTP Server

Enter this local NTP server IP address into the IP address bar. For example, enter 192.168.0.11 if this is your NTP server machine IP address in your local network.

Figure 6-67 NTP Server Example

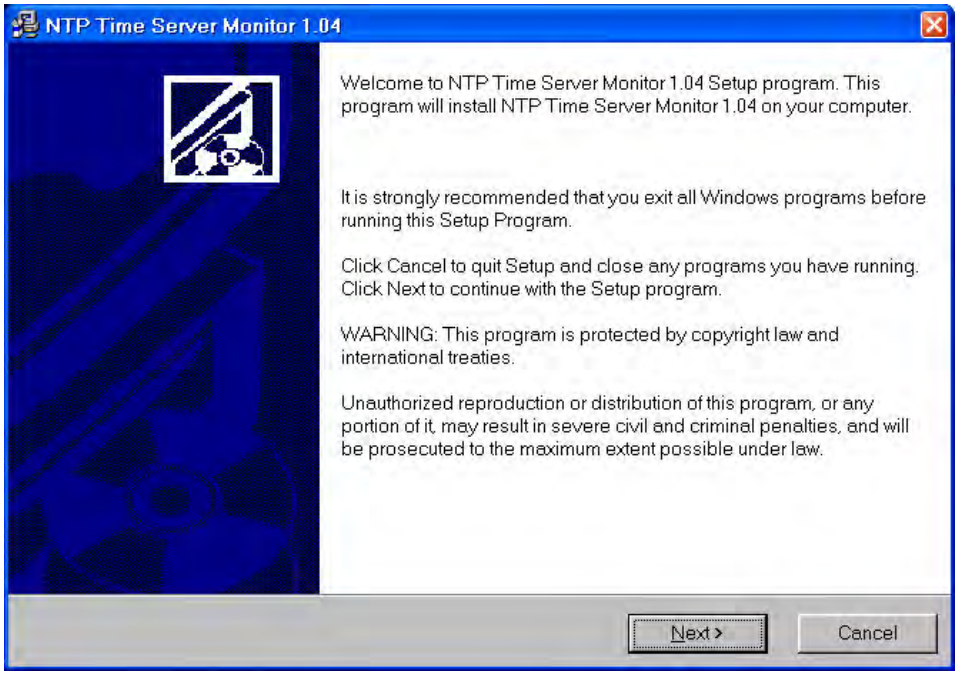


Installing the NTP Time Server Monitor Program (Optional)

For the Windows operating system there's an additional NTP Time Server Monitor program (optional) available which allows configuration of the local NTP service and graphical monitoring of the local and also remote NTP servers.

Double Click **ntp-time-server-monitor-1.04.exe** in the same NTP folder to install this monitor program.

Figure 6-68 NTP Time Server Software Installation

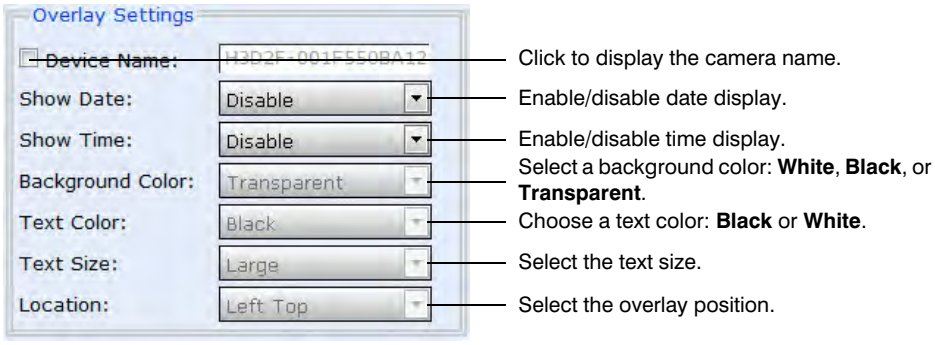

NTP Time Server Monitor 1.04
Welcome to NTP Time Server Monitor 1.04 Setup program. This program will install NTP Time Server Monitor 1.04 on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup Program.
Click Cancel to quit Setup and close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

Visit the Meinberg official website (*http://www.meinbergglobal.com*). Go to **Support➤Software Download➤NTP Download** for more information.

Overlay Settings

The Overlay Settings panel allows you to configure the appearance of the date and time, the background and text colors, text size, and overlay location.

Figure 6-69 Overlay Settings

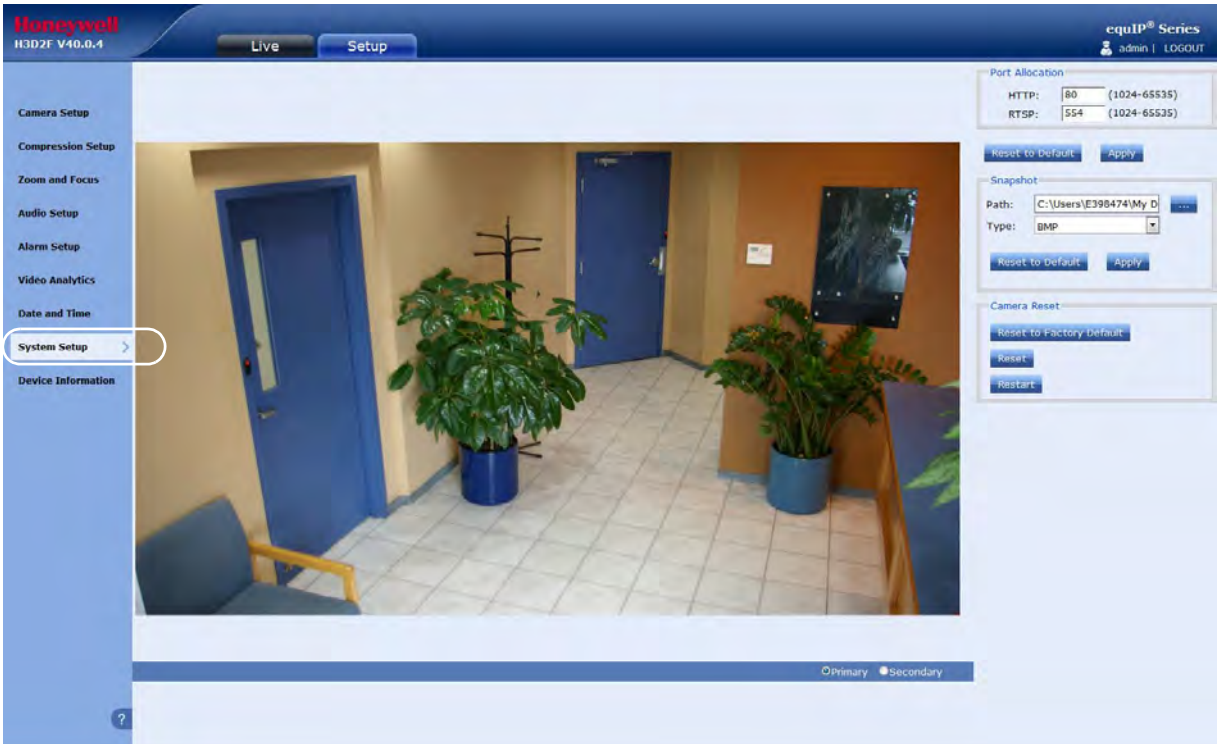


System Setup

The System Setup tab allows you to configure port allocation settings, and the snapshot file type and save path. It also allows you to restore to factory defaults and reboot a camera.

Note The Snapshot file type and save path is different between IE and Chrome/Firefox. Please see *Taking a Snapshot in Microsoft® IE8 and IE9 on page 97* and *Taking a Snapshot in Google Chrome™ and Mozilla Firefox® on page 98*.

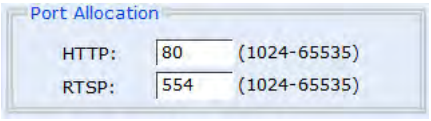
Figure 6-70 System Setup Tab



Configuring Port Allocation Settings

Enter values for the HTTP and RTSP ports.

Figure 6-71 Port Allocation Options



Ports Blocked by Google Chrome

Avoid using the following ports, which are blocked by Google Chrome:

Table 6-17 Ports Blocked by Google Chrome

2049, // nfs
3659, // apple-sasl / PasswordServer
4045, // lockd
6000, // X11
6665, // Alternate IRC [Apple addition]
6666, // Alternate IRC [Apple addition]

6667, // Standard IRC [Apple addition]
6668, // Alternate IRC [Apple addition]
6669, // Alternate IRC [Apple addition]

Ports Blocked by Mozilla Firefox

Avoid using the following ports, which are blocked by Mozilla Firefox:

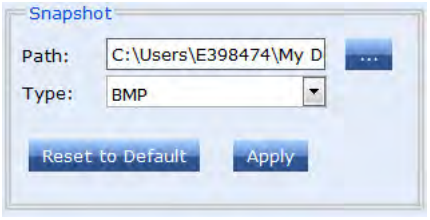
Table 6-18 Ports Blocked by Mozilla Firefox

2049, // nfs
4045, // lockd
6000, // X11

Configuring Snapshot Settings (Microsoft IE only)

The Snapshot options allow you to choose a path where to save the snapshot, and a file type.

Figure 6-72 Snapshot Configuration Options



1. Click ... to choose a file saving path.
2. Select from the drop-down menu a file-saving type, either BMP or JPEG.
3. Click Apply to save the changes.

Note For Google Chrome and Mozilla Firefox, this is done while taking a snapshot. Please see *Taking a Snapshot in Google Chrome™ and Mozilla Firefox® on page 98*.

Resetting and Rebooting the Device

You can choose from **Restart**, **Restore**, and **Reset to Defaults**.

Figure 6-73 Camera Reset Options

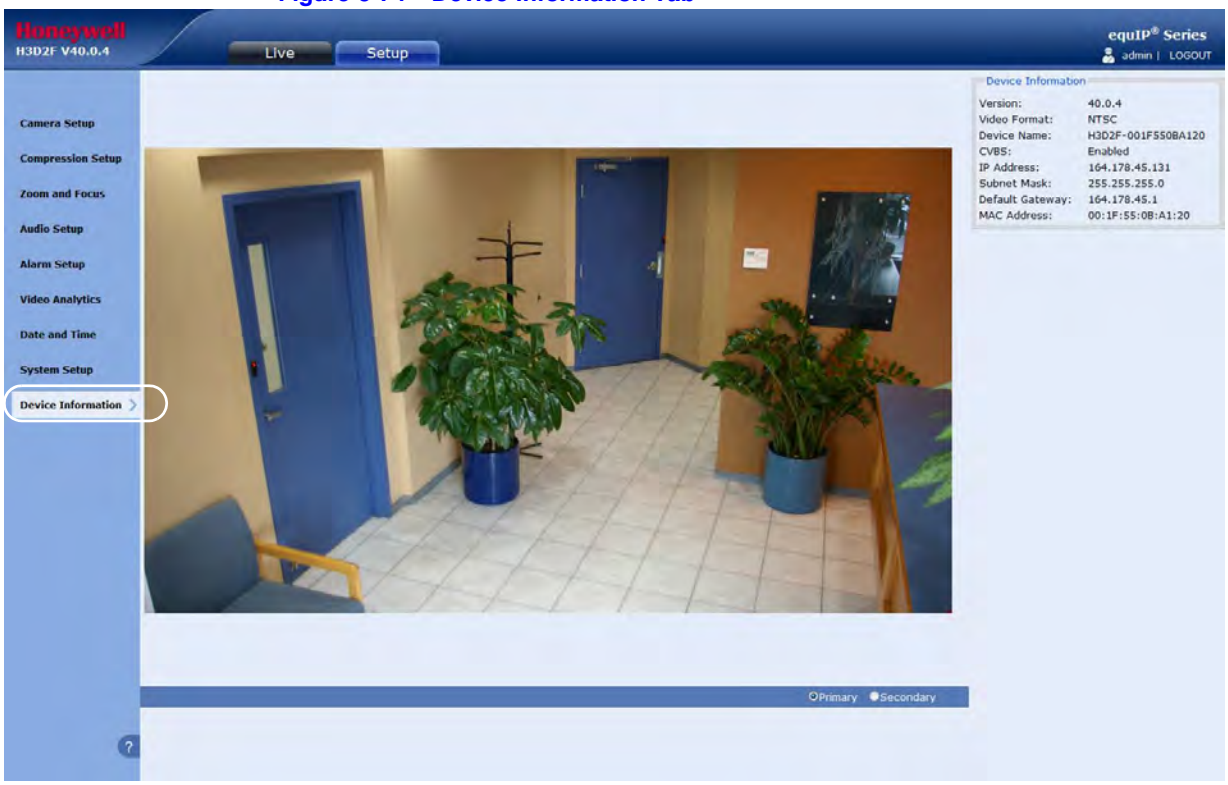
Each of these functions take approximately 2 minutes to complete, and during that time, the camera will lose connection to the web client. You will be asked if you wish to proceed before the action occurs.

Reset to Factory Defaults	Resets the camera to the factory defaults, including the network settings.
Reset	Resets the camera to the factory defaults, except the network settings.
Restart	Restarts the camera while maintaining the existing configurations.

Device Information

The Device Information tab allows you to view the network settings and firmware details of the camera.

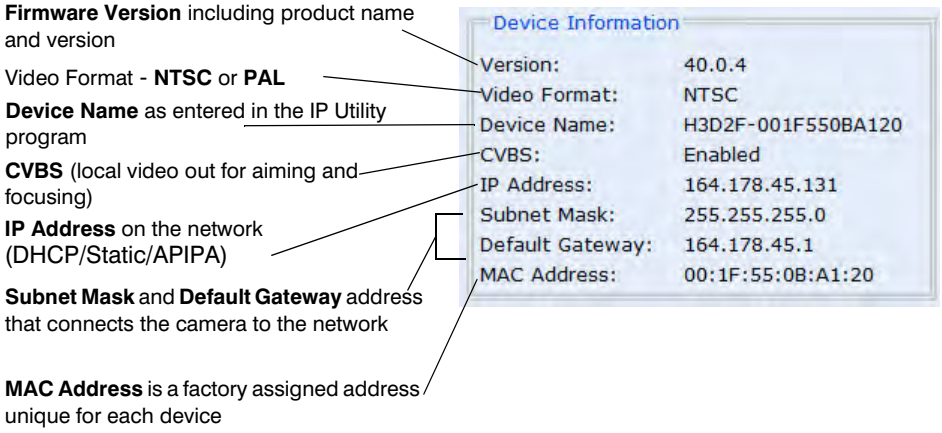
Figure 6-74 Device Information Tab



Viewing IP and Firmware Settings

This tab provides read-only network settings, firmware settings, and video formats for the camera without having to access the IP Utility.

Figure 6-75 IP and Firmware Settings: Device Information Tab


Firmware Version including product name and version
Video Format - **NTSC** or **PAL**
Device Name as entered in the IP Utility program
CVBS (local video out for aiming and focusing)
IP Address on the network (DHCP/Static/APIPA)
Subnet Mask and **Default Gateway** address that connects the camera to the network
MAC Address is a factory assigned address unique for each device
Device Information
Version: 40.0.4
Video Format: NTSC
Device Name: H3D2F-001F550BA120
CVBS: Enabled
IP Address: 164.178.45.131
Subnet Mask: 255.255.255.0
Default Gateway: 164.178.45.1
MAC Address: 00:1F:55:0B:A1:20

A

Troubleshooting

Technical Support

Prior to calling Honeywell technical support, refer to the following topics for possible solutions to problems with your ONVIF camera. To contact the Honeywell Video Systems technical support team, call 1-800-323-4576 (North America only) or send an e-mail to HVSsupport@honeywell.com.

Any equipment returned to Honeywell Video Systems for warranty or service repair must have a Return Merchandise Authorization (RMA) number. The RMA number must be clearly marked on all return packages and internal paperwork.

Problem: Lens Out of Optical Focus

Possible solutions:

1. Verify that the lens cap has been removed from the camera.
2. This can also be caused by dirt, oil, grease, and fingerprints, and so on, that have accumulated on the lens or bubble. Check the lens and dome bubble, then clean them, if needed.

CAUTION **Use extreme caution when cleaning the lens and dome bubble so you do not scratch their optical surfaces. Prepare a washed-out cotton cloth or lens cleaning paper with alcohol or lens cleaning liquid. Clean by moving spirally from the lens center towards its rim. Repeat until the lens is completely clean.**

Problem: Live View Does Not Display the Expected Video

Possible solutions:

- Ensure that your web browser settings have been configured to allow ActiveX controls (see *Configuring Your OS and Browser for ActiveX Installation on Microsoft IE on page 75* for information on setting up your browser).
- Ensure that the network cable from the camera is connected to both the camera and the network.

Problem: Failure of IP Utility Software Installation

Solution 1 Disable Norton AntiVirus software, then install the IP Utility software.

Solution 2 Enable Microsoft .NET Framework 3.5 on your workstation. It usually comes pre-installed on Windows 7.

Enabling Microsoft .NET Framework 3.5 on Your Workstation

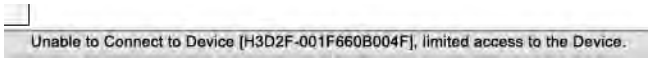
1. Go to **Start** ▶ **Control Panel** ▶ **Programs** ▶ **Programs and Features**.
2. Click the check box beside **Microsoft .NET Framework 3.5** to enable it.

Click **OK** to save the new setting.

Problem: Cannot Connect to a Device

When the following message (*Figure A-1*) displays in the status bar of the IP Utility, your device connection is limited. Usually this warning indicates that your PC and the device your are connecting to are on different subnets. Contact your network administrator for help to resolve your network issue(s).

Figure A-1 Limited or No Connection Message



B

HCD2F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/2.7″ CMOS	
Number of Pixels (H x V):	1920 x 1080 (1080p)	
Minimum Illumination:	0.18 lux color/0.15 lux BW @ 50 IRE, F1.2 0.11 lux color/0.09 lux BW @ 30 IRE, F1.2	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (20 – 40 dB)	
Auto Electronic Shutter (ELC):	1/30 – 1/130,000 sec	1/25 – 1/130,000 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	Auto, Manual, WBC Push	
Audio Signal Specifications		
Audio/Two-Way:	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	5 W (max) 24 V AC PoE: PD Type 1, Class 2	
Mechanical Specifications		
Dimensions (WxH):	See diagrams on *page 143*	
Weight:	1.1 lb (0.5 kg) camera only	
Construction:	Housing: Aluminum Finish: Cool gray powder coat	
Camera Mount:	1/4-20 UNC mounting ring	
Connectors:	Local Video Output: BNC connector Lens: 4-Pin Connector Power Input: Removable screw block Alarm I/O: Removable screw block Audio In: 3.5 mm mono phone jack Audio Out: 3.5 mm mono phone jack Network: RJ45 connector	

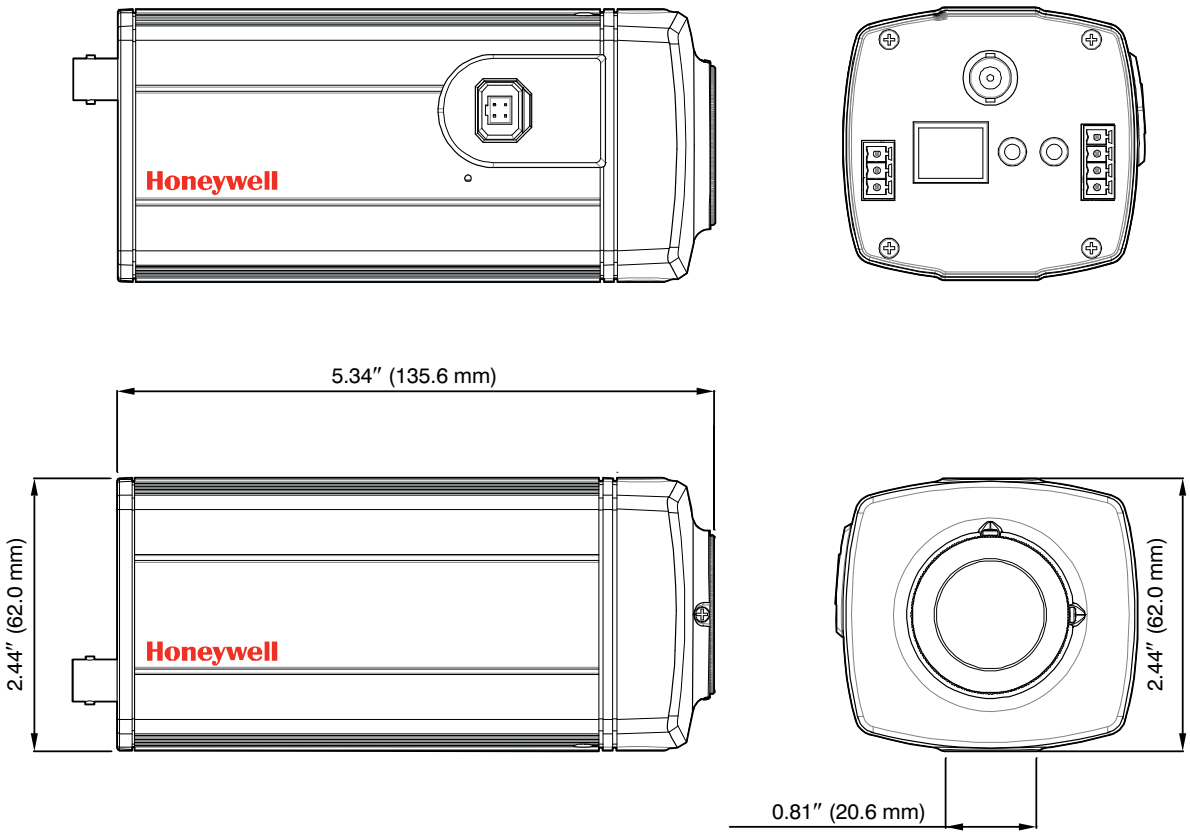
Environmental Specifications			
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -4°F to 140°F (-20°C to 60°C)		
Relative Humidity:	0% to 85%, non-condensing		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1920 x 1080	3.0 Mbps	30/25	31.6
1280 x 720	1.4 Mbps	30/25	14.8
800 x 450	0.75 Mbps	30/25	7.91
640 x 360	0.4 Mbps	30/25	4.22
320 x 180	0.2 Mbps	30/25	2.11
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth. Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		
Regulatory			
Emissions:	FCC, CE (EN55022)		
Immunity:	CE (EN50130-4)		
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1		
Housings and Mounts			
HBC5WT	Wall/ceiling mount bracket		
HHCWM	Environmental housing ***		
HHCWM2	Environmental housing with heater/blower ***		
**Recommended Lens Options ** **			
HLM45V13MPD	4.5–13.2 mm high definition megapixel lens		

* The actual bitrate is scene- and motion-dependent with the H.264 stream.

** Only a high definition megapixel lens should be used with the HCD2F camera.

*** When the HCD2F is installed in the HHCWM or the HHCWM2 environmental housing, the finished assembly performs well in environments ranging from 5°F to 140°F (-15°C to 60°C) (HHCWM) or -40°F to 140°F (-40°C to 60°C) (HHCWM2).

Figure B-1 HCD2F(X) Camera Dimensions



C

HCD1F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/4″ CMOS	
Number of Pixels (H x V):	1280 x 720 (720p)	
Minimum Illumination:	0.6 lux color/0.4 lux BW @ 50 IRE, F1.3 0.25 lux color/0.15 lux BW @ 30 IRE, F1.3	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (10 – 40 dB)	
Auto Electronic Shutter (ELC):	1/60 – 1/24,500 sec	1/50 – 1/24,500 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	AWC, Manual, AWC Push	
Audio Signal Specifications		
Audio/Two-Way:	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	5 W (max) 24 V AC PoE: PD Type 1, Class 1	
Mechanical Specifications		
Dimensions (WxH):	See diagrams on *page 147*	
Weight:	1.1 lb (0.5 kg) camera only	
Construction:	Housing: Aluminum Finish: Cool gray powder coat	
Camera Mount:	1/4-20 UNC mounting ring	
Connectors:	Local Video Output: BNC connector Lens: 4-Pin Connector Power Input: Removable screw block Alarm I/O: Removable screw block Audio In: 3.5 mm mono phone jack Audio Out: 3.5 mm mono phone jack Network: RJ45 connector	

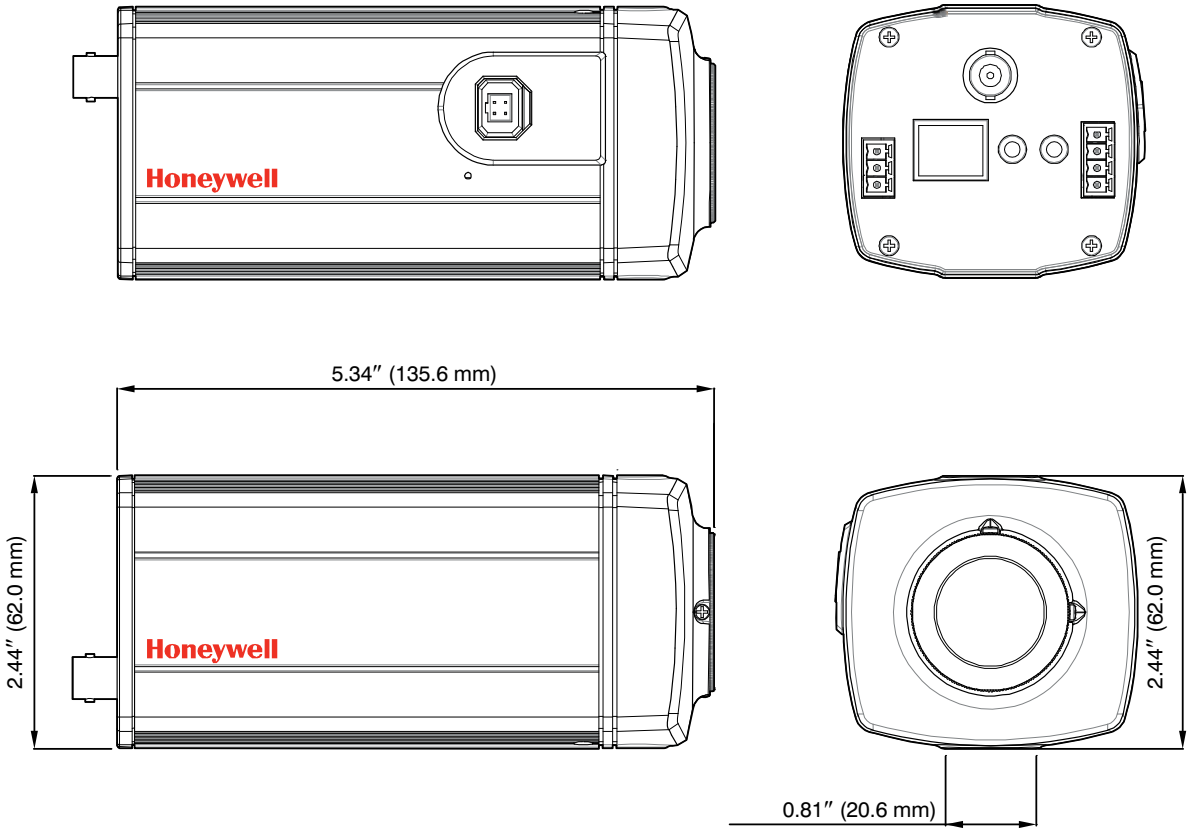
Environmental Specifications			
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -4°F to 140°F (-20°C to 60°C)		
Relative Humidity:	0% to 85%, non-condensing		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1280 x 720	1.8 Mbps	30/25	18.98
800 x 450	1.2 Mbps	30/25	12.65
640 x 360	0.6 Mbps	30/25	6.33
320 x 180	0.21 Mbps	30/25	0.89
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth. Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		
Regulatory			
Emissions:	FCC, CE (EN55022)		
Immunity:	CE (EN50130-4)		
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1		
Housings and Mounts			
HBC5WT	Wall/ceiling mount bracket		
HHCWM	Environmental housing ***		
HHCWM2	Environmental housing with heater/blower ***		
**Recommended Lens Options ** **			
HLD3V8MPD	3–8 mm High definition megapixel lens		
HLM45V13MPD	4.5–13.2 mm High definition megapixel lens		

* The actual bitrate is scene- and motion-dependent with the H.264 stream.

** Only a high definition megapixel lens should be used with the HCD1F camera.

*** When the HCD1F is installed in the HHCWM or the HHCWM2 environmental housing, the finished assembly performs well in environments ranging from 5°F to 140°F (-15°C to 60°C) (HHCWM) or -40°F to 140°F (-40°C to 60°C) (HHCWM2).

Figure C-2 HCD1F(X) Camera Dimensions



D

HCW1F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/3″ CMOS	
Number of Pixels (H x V):	1280 x 720 (720p)	
Minimum Illumination:	0.1 lux color/0.07 lux BW @ 50 IRE, F1.2	
Video Output (AUX):	1.0 *V*p-p @ 75 ohms	
Dynamic Range:	115 dB	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (20 – 40 dB)	
Auto Electronic Shutter (ELC):	1/30 – 1/87,000 sec	
White Balance (AWB):	Auto, Manual, WBC Push	
Audio Signal Specifications		
Audio/Two-Way:	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	5 W (max) 24 V AC PoE: PD Type 1, Class 2	
Mechanical Specifications		
Dimensions (WxH):	See diagrams on *page 151*	
Weight:	1.1 lb (0.5 kg) camera only	
Construction:	Housing: Aluminum Finish: Cool gray powder coat	
Camera Mount:	1/4-20 UNC mounting ring	
Connectors:	Local Video Output: BNC connector Lens: 4-Pin Connector Power Input: Removable screw block Alarm I/O: Removable screw block Audio In: 3.5 mm mono phone jack Audio Out: 3.5 mm mono phone jack Network: RJ45 connector	

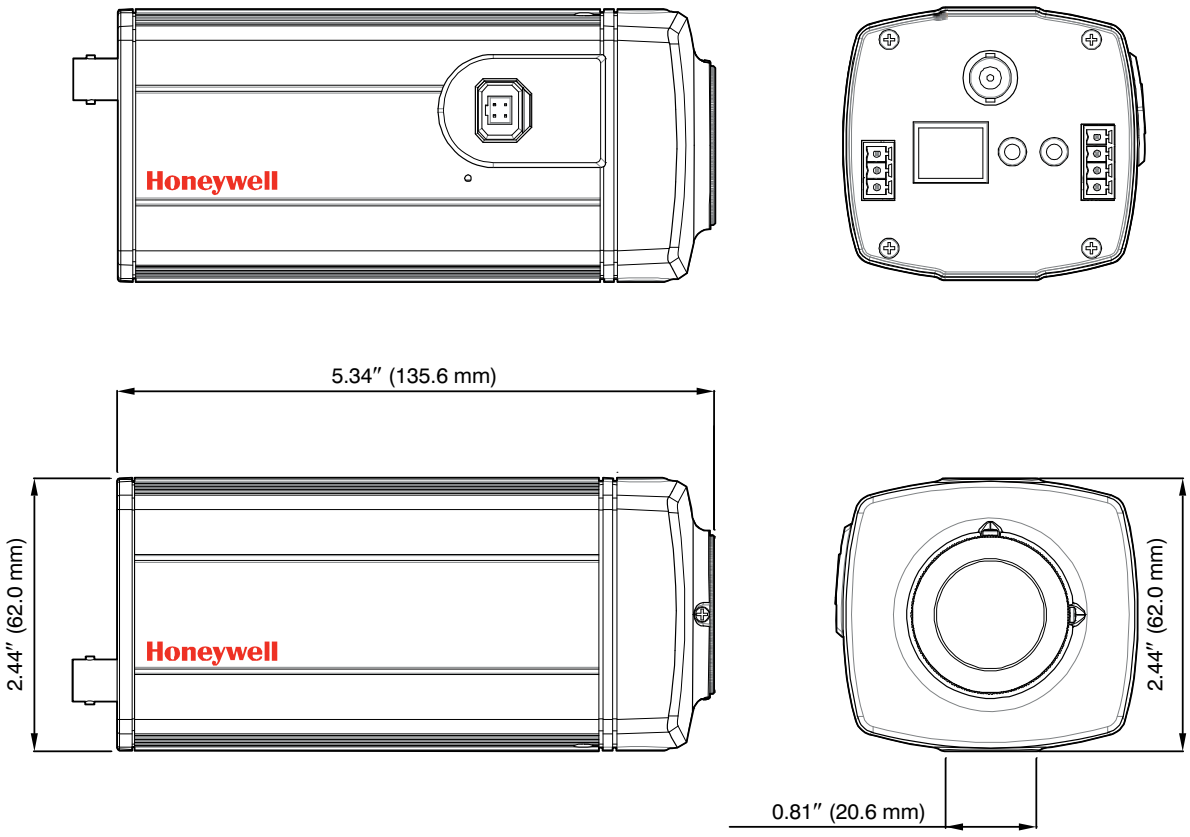
Environmental Specifications			
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -4°F to 140°F (-20°C to 60°C)		
Relative Humidity:	0% to 85%, non-condensing		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1280 x 720	2.7 Mbps	30/25	28.48
800 x 450	1.8 Mbps	30/25	18.98
640 x 360	0.9 Mbps	30/25	9.49
320 x 180	0.315 Mbps	30/25	3.32
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth. Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		
Regulatory			
Emissions:	FCC, CE (EN55022)		
Immunity:	CE (EN50130-4)		
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1		
Housings and Mounts			
HBC5WT	Wall/ceiling mount bracket		
HHCWM	Environmental housing ***		
HHCWM2	Environmental housing with heater/blower ***		
**Recommended Lens Options ** **			
HLD3V8MPD	3–8 mm High definition megapixel lens		
HLM45V13MPD	4.5–13.2 mm High definition megapixel lens		

* The actual bitrate is scene- and motion-dependent with the H.264 stream.

** Only a high definition megapixel lens should be used with the HCW1F camera.

*** When the HCW1F is installed in the HHCWM or the HHCWM2 environmental housing, the finished assembly performs well in environments ranging from 5°F to 140°F (-15°C to 60°C) (HHCWM) or -40°F to 140°F (-40°C to 60°C) (HHCWM2).

Figure D-1 HCW1F(X) Camera Dimensions



E

H3D2F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/2.7” CMOS	
Number of Pixels (H x V):	1920 x 1080 (HD); 640 x 480 (VGA)	
Minimum Illumination:	0.18 lux color/0.15 lux BW @ 50 IRE, F1.2 0.11 lux color/0.09 lux BW @ 30 IRE, F1.2	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (20 – 40 dB)	
Auto Electronic Shutter (ELC):	1/30 – 1/130,000 sec	1/25 – 1/130,000 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance:	Auto, Manual, WBC Push	
Lens Type:	True Day/Night (TDN) 3 to 9 mm Motorized Focus and Zoom Lens, F1.2	
Angle of View:	Wide	Tele
Horizontal:	93.0°	31.7°
Vertical:	68.4°	23.8°
Audio Signal Specifications		
Audio/Two-Way:	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	5.0 W (max) 24 V AC PoE: PD Type 1, Class 2	

Mechanical Specifications			
Dimensions (WxH):	See diagrams (*Figure E-1*, *Figure E-2*, *Figure E-3*, *Figure E-4*)		
Weight:	1.04 lb (0.47 kg) camera only		
Construction:	Housing: Polycarbonate & Die cast aluminum Finish: Matte texture, Off-white		
Connectors:	Local Video Output: 2-pin Molex connector Power Input: Removable screw block Alarm I/O: Removable screw block Audio In/Out: Removable screw block Network: RJ45 connector		
Environmental Specifications			
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -4°F to 140°F (-20°C to 60°C)		
Relative Humidity:	0% to 85%, non-condensing		
IP Specifications			
Video Compression:	Dual stream: H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1920 x 1080	3.0 Mbps	30/25	31.6
1280 x 720	1.4 Mbps	30/25	14.8
800 x 450	0.75 Mbps	30/25	7.91
640 x 360	0.4 Mbps	30/25	4.22
320 x 180	0.2 Mbps	30/25	2.11
Frame Rate NTSC/PAL:	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		

Regulatory	
Emissions:	FCC part 15B, CE (EN55022)
Immunity:	CE (EN50130-4)
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA EN60950-1
Mounts	
HD3-MK1:	Pendant/Wall mount kit

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure E-1 H3D2F(X) Camera Side View with Dimensions

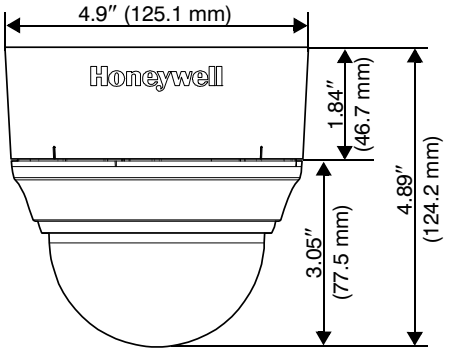


Figure E-2 H3D2F(X) Camera Side View Dimensions without Skirt

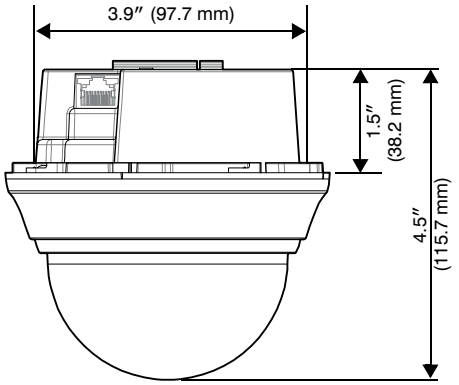


Figure E-3 H3D2F(X) Camera Side View Dimensions with Adapter Plate

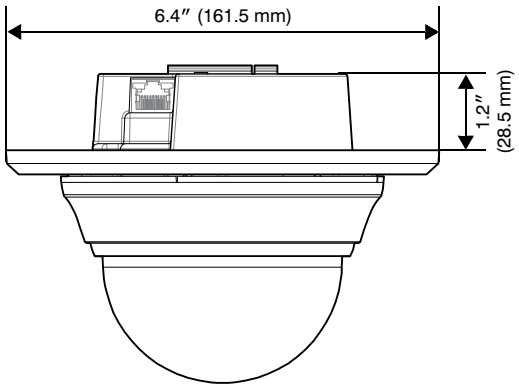


Figure E-4 H3D2F(X) Camera Bottom View with Dimensions

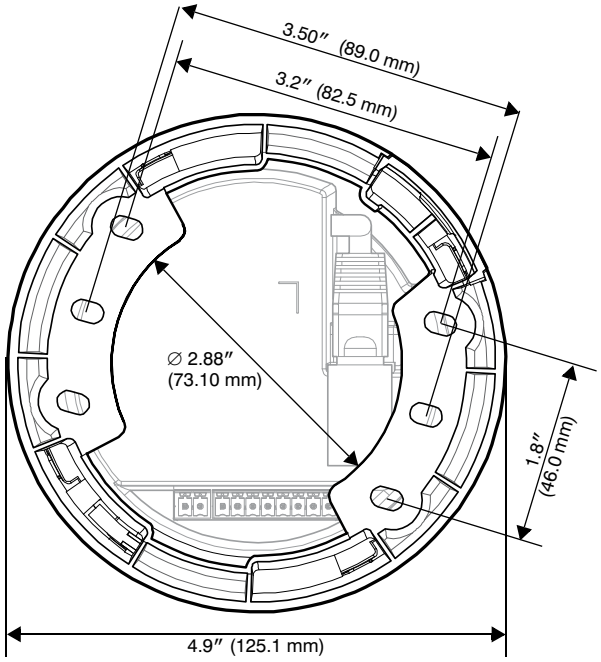


Figure E-5 H3D2F(X) Camera Pendant Mount Option with Dimensions

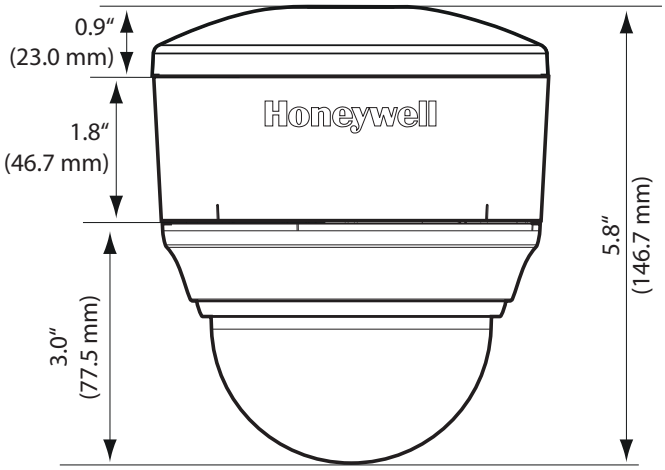
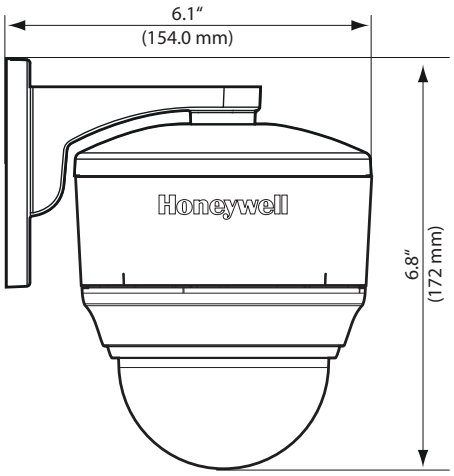


Figure E-6 H3D2F(X) Camera Wall Mount Option with Dimensions



F

H3D1F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/4″ CMOS	
Number of Pixels (H x V):	1280 x 720 (HD); 640 x 480 (VGA)	
Minimum Illumination: (AGC max)	0.25 lux color/0.22 lux BW @ 50 IRE, F1.6 0.11 lux color/0.09 lux BW @ 30 IRE, F1.6	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (10 – 40 dB)	
Auto Electronic Shutter (ELC):	1/60 – 1/24,500 sec	1/50 – 1/24,500 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	AWC, AWC Push, Manual	
Lens Type:	H3D1F1(X): 3.3 – 12 mm Varifocal Auto Iris, F1.6 H3D1F2(X): 2.5 – 6 mm Varifocal Auto Iris, F1.2 H3D1F3(X): 10 – 28 mm Varifocal Auto Iris, F1.8	
Audio Signal Specifications		
Audio/Two-Way:	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	3.5 W (max) 24 V AC PoE: PD Type 1, Class 1	
Mechanical Specifications		
Dimensions (WxH):	See diagrams (*Figure F-1*, *Figure F-2*, *Figure F-3*, *Figure F-4*)	
Weight:	1.04 lb (0.45 kg) camera only	
Construction:	Housing: Polycarbonate Finish: Matte texture, Off-white	
Connectors:	Local Video Output: 2-pin Molex connector Power Input: Removable screw block Alarm I/O: Removable screw block Audio In/Out: Removable screw block Network: RJ45 connector	

Environmental Specifications			
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -4°F to 140°F (-20°C to 60°C)		
Relative Humidity:	0% to 85%, non-condensing		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1280 x 720	1.8 Mbps	30/25	18.98
800 x 450	1.2 Mbps	30/25	12.65
640 x 360	0.6 Mbps	30/25	6.33
320 x 180	0.2 Mbps	30/25	0.89
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth. Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		
Regulatory			
Emissions:	FCC part 15B, CE (EN55022)		
Immunity:	CE (EN50130-4)		
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1		
Mounts			
HD3-MK1:	Pendant/Wall mount kit		

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure F-1 H3D1F(X) Camera Side View with Dimensions

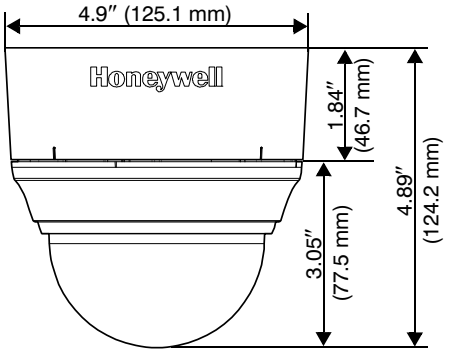


Figure F-2 H3D1F(X) Camera Side View Dimensions without Skirt

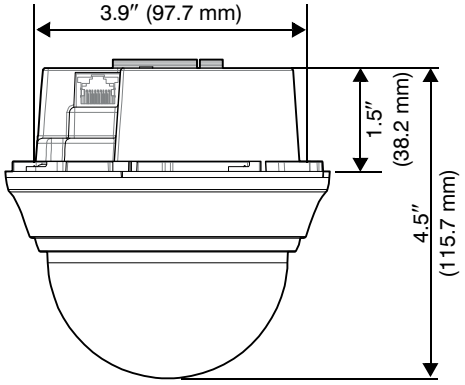


Figure F-3 H3D1F(X) Camera Side View Dimensions with Adapter Plate

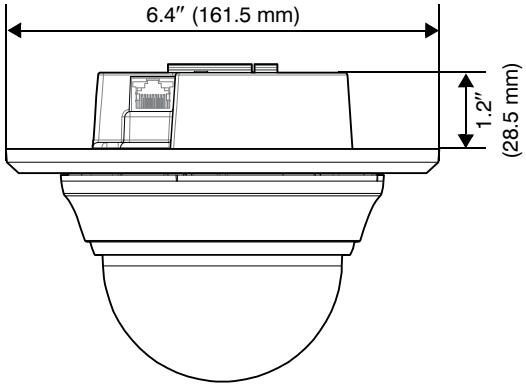


Figure F-4 H3D1F(X) Camera Bottom View with Dimensions

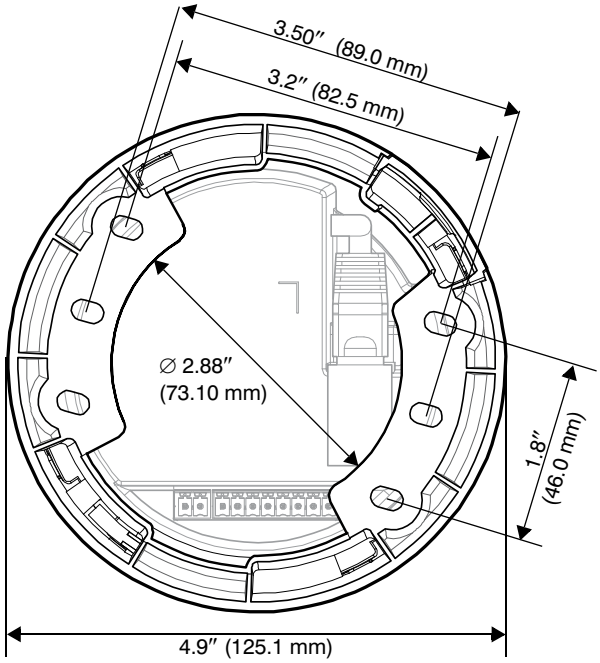


Figure F-5 H3D1F(X) Camera Pendant Mount Option with Dimensions

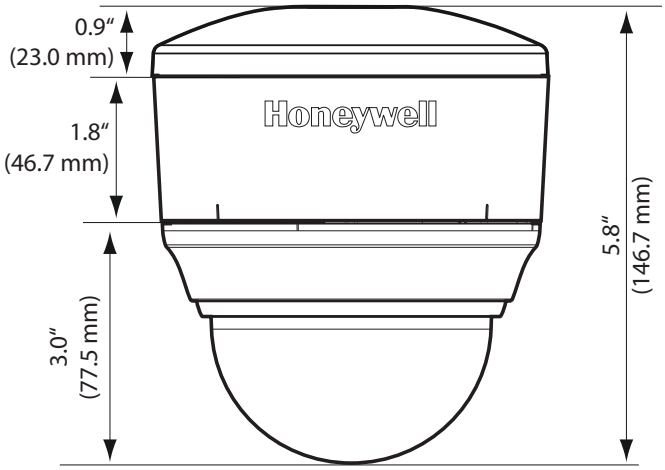
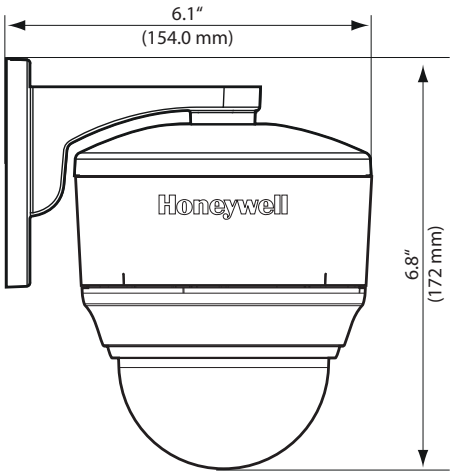


Figure F-6 H3D1F(X) Camera Wall Mount Option with Dimensions



G

H3SVP(X) and H3S1P(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/4″ CMOS	
Number of Pixels (H x V):	H3S1P(X): 1280 x 720 H3SVP(X): 640 x 480	
Minimum Illumination:	0.25 lux @ 50 IRE, F1.6 0.11 lux @ 30 IRE, F1.6	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC off)	
Auto Gain Control (AGC):	Off/On, selectable (10 – 40 dB)	
Auto Electronic Shutter (ELC):	1/60 – 1/24,500 sec	1/50 – 1/24,500 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	AWC, AWC Push, Manual	
Lens Type:	3.3 mm to 12.0 mm Varifocal Auto Iris, F1.6	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	3.5 W (max) 24 V AC PoE: PD Type 1, Class 1	
Mechanical Specifications		
Dimensions (W x H):	See diagrams (*Figure G-7*, *Figure G-8*)	
Weight:	1.0 lb (0.448 kg) camera only	
Construction:	Housing: Polycarbonate Finish: Matte texture, off-white	
Connectors:	Local Video Output (AUX): 2-pin Molex connector Power Input: Removable screw block Network: RJ45 connector	
Environmental Specifications		
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -40°F to 158°F (-40°C to 70°C)	
Relative Humidity:	0% to 85%, non-condensing	

IP Specifications			
Resolutions: H3SVP(X)	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
640 x 480 (4:3)	0.84 Mbps	30/25	8.86
640 x 360 (16:9)	0.70 Mbps	30/25	7.39
320 x 240 (4:3)	0.32 Mbps	30/25	3.33
320 x 180 (16:9)	0.25 Mbps	30/25	2.58
Resolutions: H3S1P(X)			
1280 x 720 (16:9)	1.8 Mbps	30/25	18.98
800 x 450 (16:9)	1.2 Mbps	30/25	12.65
640 x 360 (16:9)	0.6 Mbps	30/25	6.33
320 x 180 (16:9)	0.21 Mbps	30/25	0.89
Frame Rate NTSC/PAL:	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG. Controllable frame rate and bandwidth. Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		
Regulatory			
Emissions:	FCC part 15B, CE (EN55022)		
Immunity:	CE (EN50130-4)		
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1		
Housing and Mounts			
HD3-MK1:	Wall/Pendant mount kit, off-white		

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure G-7 H3SVP(X)/H3S1P(X) Camera Side View with Dimensions

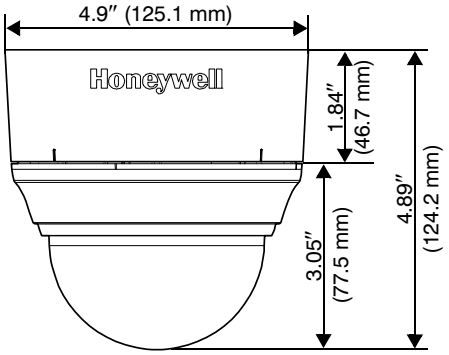


Figure G-8 H3SVP(X)/H3S1P(X) Camera Bottom View with Dimensions

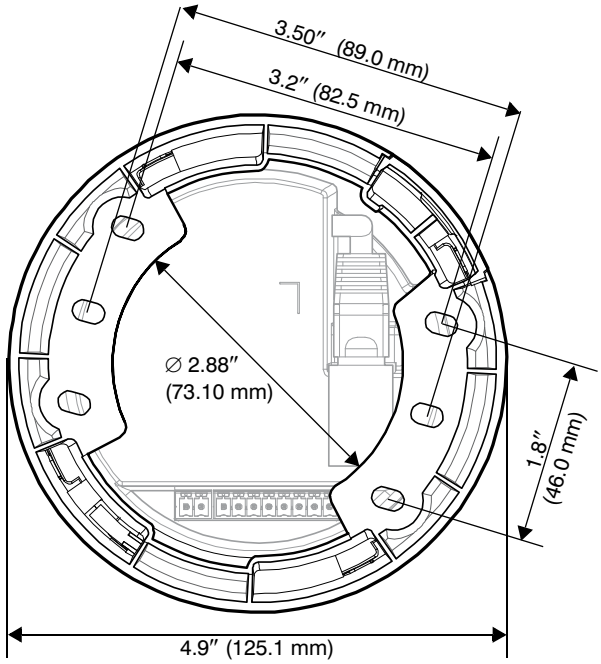


Figure G-9 H3SVP(X)/H3S1P(X) Camera Pendant Mount Option with Dimensions

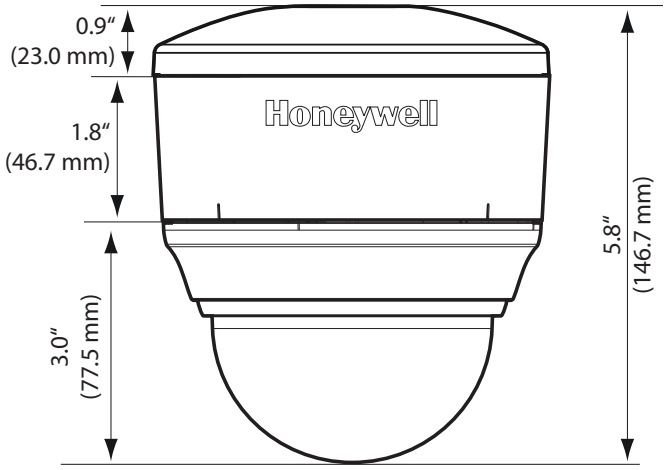
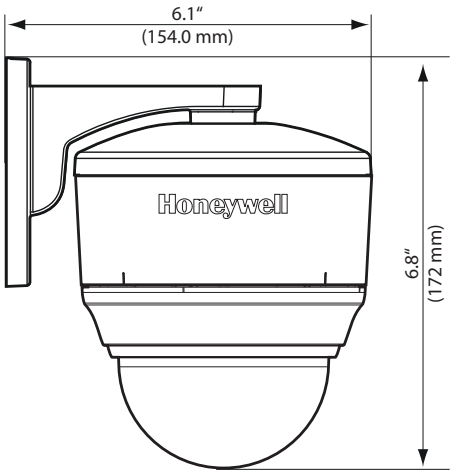


Figure G-10 H3SVP(X)/H3S1P(X) Camera Wall Mount Option with Dimensions



H3W1F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/3″ CMOS	
Number of Pixels (H x V):	1280 x 720 (HD); 640 x 480 (VGA)	
Minimum Illumination:	0.14 lux color/0.1 lux BW @ 50 IRE, F1.6	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Dynamic Range:	115 dB	
Auto Gain Control (AGC):	Off/On, selectable (20 – 40 dB)	
Auto Electronic Shutter (ELC):	1/30 – 1/87,000 sec	
White Balance (AWB):	Auto, Manual, WBC Push	
Lens Type:	True Day/Night (TDN) 3.3 mm to 12.0 mm Varifocal Auto Iris, F1.6	
Angle of View:	Wide	Tele
Diagonal	125.7°	29.9°
Horizontal	89.8°	23.9°
Vertical	63.6°	17.9°
Audio Signal Specifications		
Audio/Two-Way:	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	5 W (max) 24 V AC PoE: PD Type 1, Class 2	

Mechanical Specifications			
Dimensions (WxH):	See diagrams (*Figure H-1*, *Figure H-2*, *Figure H-3*, *Figure H-4*)		
Weight:	1.04 lb (0.47 kg) camera only		
Construction:	Housing: Polycarbonate Finish: Matte texture, Off-white		
Connectors:	Local Video Output: 2-pin Molex connector Power Input: Removable screw block Alarm I/O: Removable screw block Audio In/Out: Removable screw block Network: RJ45 connector		
Environmental Specifications			
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -4°F to 140°F (-20°C to 60°C)		
Relative Humidity:	0% to 85%, non-condensing		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1280 x 720	2.7 Mbps	30/25	28.48
800 x 450	1.8 Mbps	30/25	18.98
640 x 360	0.9 Mbps	30/25	9.49
320 x 180	0.315 Mbps	30/25	3.32
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth. Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		

Regulatory	
Emissions:	FCC, CE (EN55022)
Immunity:	CE (EN50130-4)
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1
Mounts	
HD3-MK1:	Pendant/Wall mount kit

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure H-1 H3W1F(X) Camera Side View with Dimensions

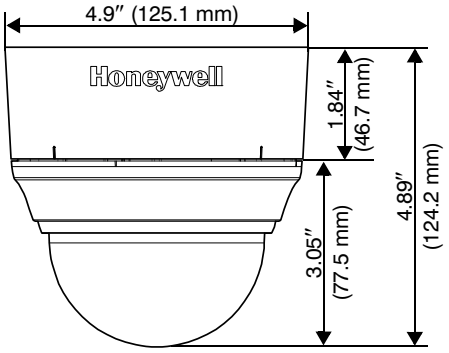


Figure H-2 H3W1F(X) Camera Side View Dimensions without Skirt

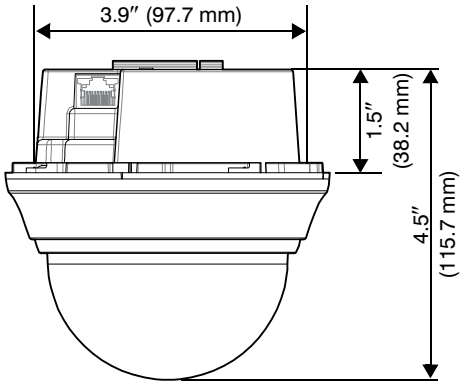


Figure H-3 H3W1F(X) Camera Side View Dimensions with Adapter Plate

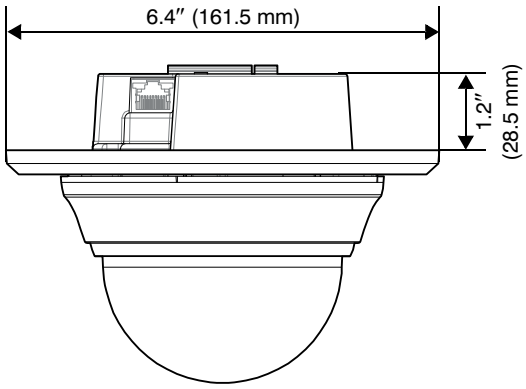


Figure H-4 H3W1F(X) Camera Bottom View with Dimensions

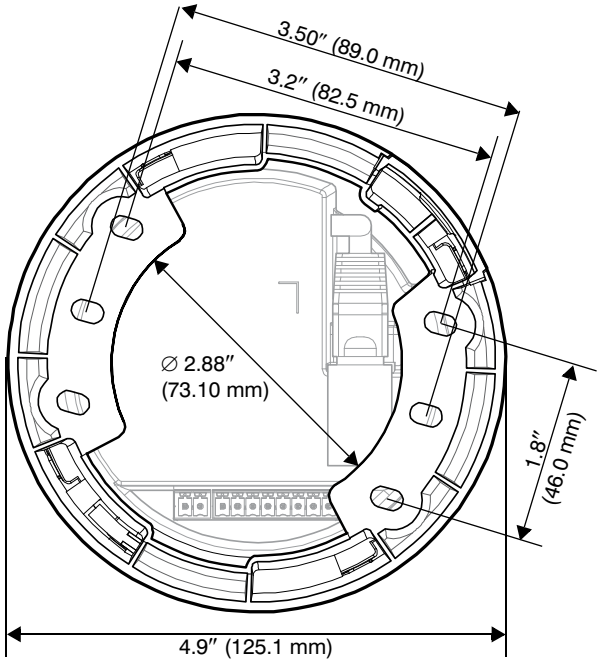


Figure H-5 H3W1F(X) Camera Pendant Mount Option with Dimensions

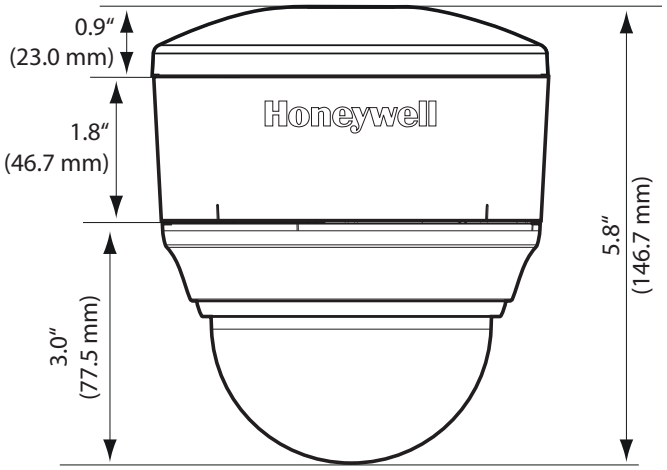
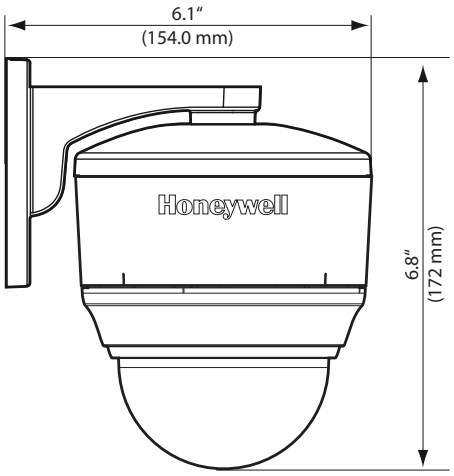


Figure H-6 H3W1F(X) Camera Wall Mount Option with Dimensions



H4D2F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/2.7″ CMOS	
Number of Pixels (H x V)	1920 x 1080 (1080p); 640 x 480 (VGA)	
Minimum Illumination:	0.18 lux color/0.15 lux for BW @ 50 IRE, F1.2 0.11 lux color/0.09 lux for BW @ 30 IRE, F1.2	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (20 – 40 dB)	
Auto Electronic Shutter (ELC):	1/30–1/130,000 sec	1/25–1/130,000 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	Auto, WBC Push, Manual	
Lens Type:	True Day/Night (TDN) 3.0 mm to 9.0 mm Motorized Focus and Zoom Lens, F1.2	
Angle of View: Horizontal Vertical	Wide 117.3° 63.0°	Tele 38.0° 21.4°
Audio Signal Specifications		
Audio/Two-Way	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17–28 V AC	
Surge Suppression	1.5 kW transient	
Power Consumption:	5 W (max) 24 V AC PoE: PD Type 1, Class 2	

Mechanical Specifications			
Dimensions (WxH):	See diagram (*Figure I-1*)		
Weight:	2.86 lb (1.3 kg) camera only		
Construction:	Housing: Die cast aluminum Finish: Cool gray powder coating Dome: Polycarbonate		
Connector:	Local Video Output: 2-pin Molex connector Power Input: Removable screw terminal block Alarm I/O: Removable screw terminal block Audio I/O: Removable screw terminal block Network: RJ45 connector		
Environmental Specifications			
Temperature:	Operating: -4°F to 122°F (-20°C to 50°C) Storage: -40°F to 158°F (-40°C to 70°C)		
Relative Humidity:	0% to 85%, non-condensing		
Rating:	IP66		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1920 x 1080	3.0 Mbps	30/25	31.6
1280 x 720	1.4 Mbps	30/25	14.8
800 x 450	0.75 Mbps	30/25	7.91
640 x 360	0.4 Mbps	30/25	4.22
320 x 180	0.2 Mbps	30/25	2.11
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth Constant or variable bit rate (H.264)		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator.		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		

Regulatory	
Emissions:	FCC, CE (EN55022)
Immunity:	CE (EN50130-4)
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1
Mounts	
HD4CHIP-PK	Pendant mount kit
HD4CHIP-WK	Wall mount kit

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure I-1 H4D2F(X) Camera Side View with Dimensions

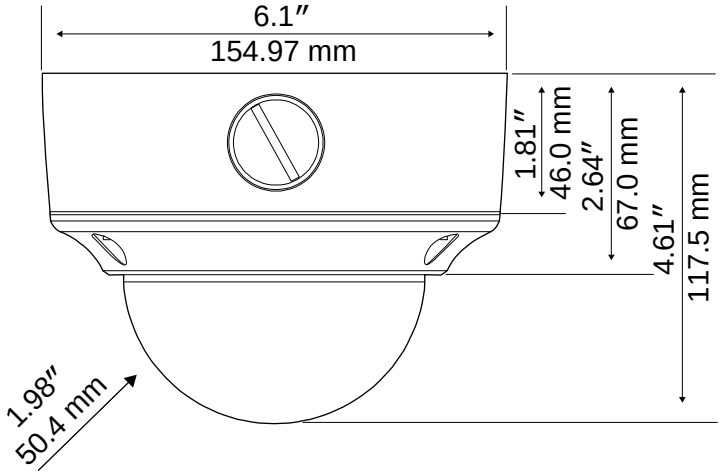


Figure I-2 H4D2F(X) Camera Bottom View with Dimensions

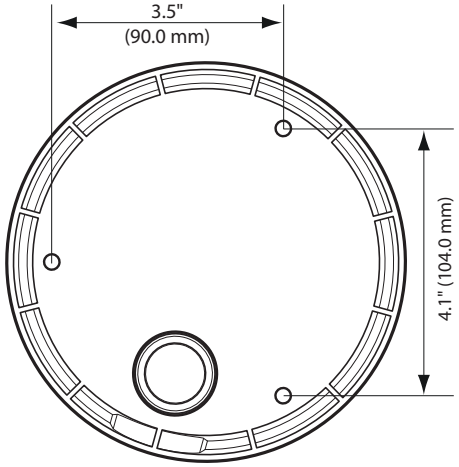


Figure I-3 H4D2F(X) Camera Pendant Mount with Dimensions

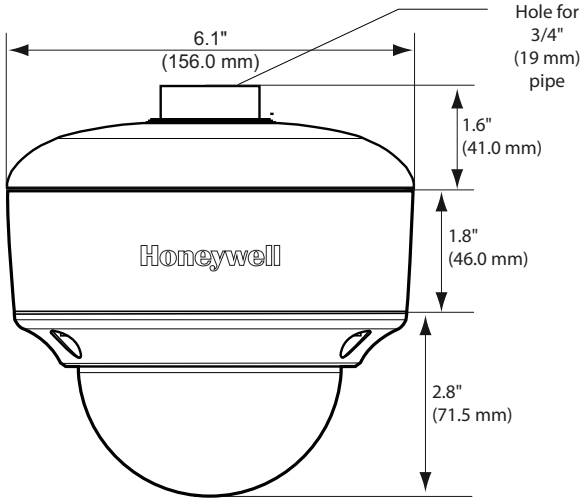
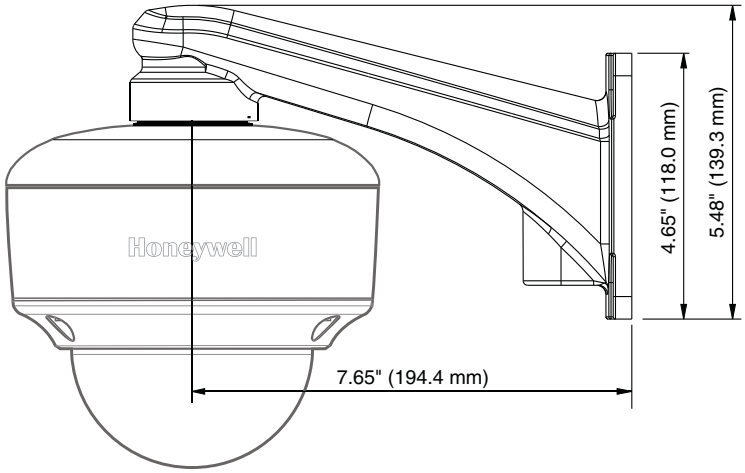


Figure I-4 H4D2F(X) Camera Wall Mount with Dimensions



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H4D1F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	**NTSC**	**PAL**
Scanning System:	Progressive	
Image Sensor:	1/4″ CMOS	
Number of Pixels (H x V)	1280 x 720 (720p); 640 x 480 (VGA)	
Minimum Illumination: (DSS on)	0.25 lux color/0.22 lux for BW @ 50 IRE, F1.6 0.11 lux color/0.09 lux for BW @ 30 IRE, F1.6	
Video Output (AUX):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (10 – 40 dB)	
Auto Electronic Shutter (ELC):	1/60–1/24,500 sec	1/50–1/24,500 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	AWC, AWC Push, Manual	
Lens Type:	True Day/Night (TDN) H4D1F1(X): 3.3 – 12.0 mm Varifocal Auto Iris, F1.6 H4D1F2(X): 2.5 – 6.0 mm Varifocal Auto Iris, F1.2 H4D1F3(X): 10.0 – 28.0 mm Varifocal Auto Iris, F1.8	

Angle of View		Wide	Tele
3.3 – 12.0 mm VFAI lens	Horizontal Vertical	68.5° 36.8°	19.14° 10.8°
2.5 – 6.0 mm VFAI lens	Horizontal Vertical	87.9° 48.6°	37.9° 21.3°
10.0 – 28.0 mm VFAI lens	Horizontal Vertical	21.9° 12.1°	8.1° 4.6°

Audio Signal Specifications	
Audio/Two-Way	Line in/out
Electrical Specifications	
Input Voltage:	24 V AC, PoE IEEE 802.3af
Input Voltage Range:	17–28 V AC
Surge Suppression	1.5 kW transient
Power Consumption:	3.5 W (max) 24 V AC PoE: PD Type 1, Class 1

Mechanical Specifications			
Dimensions (WxH):	See diagram (*Figure J-1*)		
Weight:	3.0 lb (1.3 Kg) camera only		
Construction:	Housing: Die cast aluminum Finish: Cool gray powder coating Dome: Polycarbonate		
Connector:	Local Video Out: 2-pin Molex connector Power Input: Removable screw terminal block Alarm I/O: Removable screw terminal block Audio I/O: Removable screw terminal block Network: RJ45 connector		
Environmental Specifications			
Temperature:	Operating: -22°F to 140°F (-30°C to 60°C) Storage: -40°F to 158°F (-40°C to 70°C)		
Relative Humidity:	0% to 85%, non-condensing		
Rating	IP66		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1280 x 720	1.8 Mbps	30/25	18.98
800 x 450	1.2 Mbps	30/25	12.65
640 x 360	0.6 Mbps	30/25	6.33
320 x 180	0.21 Mbps	30/25	0.89
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth Constant or variable bit rate (H.264)		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to administrator.		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		

Regulatory	
Emissions:	FCC, CE (EN55022)
Immunity:	CE (EN50130-4)
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1
Mounts	
HD4CHIP-PK	Pendant mount kit
HD4CHIP-WK	Wall mount kit

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure J-1 H4D1F(X) Camera Side View with Dimensions

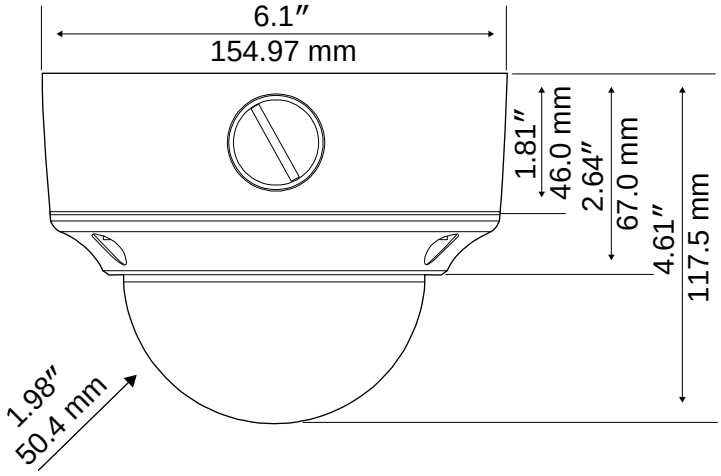


Figure J-2 H4D1F(X) Camera Bottom View with Dimensions

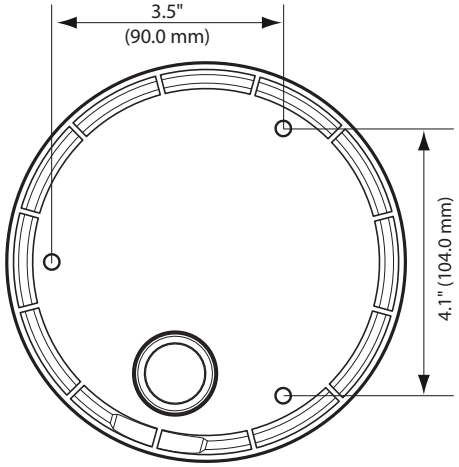


Figure J-3 H4D1F(X) Camera Pendant Mount with Dimensions

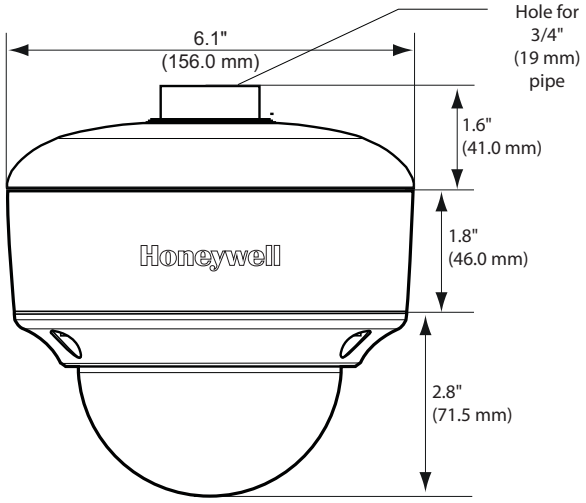
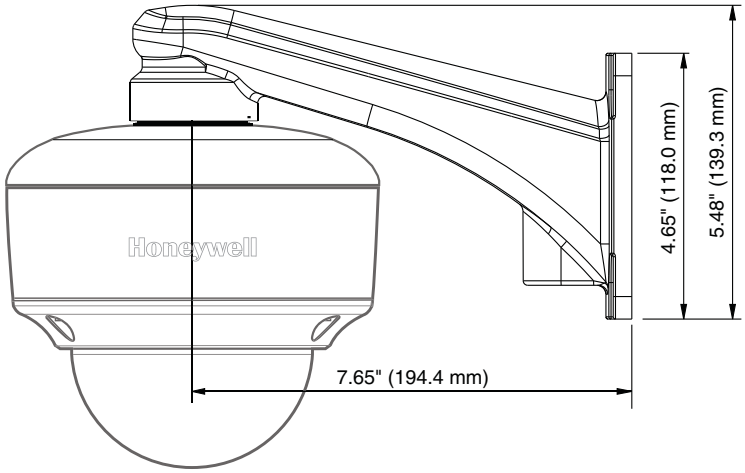


Figure J-4 H4D1F(X) Camera Wall Mount with Dimensions



K

H4SVP(X) and H4S1P(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/4″ CMOS	
Number of Pixels (H x V)	H4S1P(X): 1280 x 720 (720p models) H4SVP(X): 640 x 480 (VGA models)	
Minimum Illumination:	0.25 lux @ 50 IRE, F1.6 0.11 lux @ 30 IRE, F1.6	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Auto Gain Control (AGC):	Off/On, selectable (10 – 40 dB)	
Auto Electronic Shutter (ELC):	1/60–1/24,500 sec	1/50–1/24,500 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	AWC, AWC Push, Manual	
Lens Type:	3.3 mm to 12.0 mm Varifocal Auto Iris, F1.6	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17–28 V AC	
Surge Suppression	1.5 kW transient	
Power Consumption:	3.5 W (max) 24 V AC PoE: PD Type 1, Class 1	
Mechanical Specifications		
Dimensions (WxH):	See diagram (*Figure K-5*)	
Weight:	3.0 lb (1.3 kg) camera only	
Construction:	Housing: Die cast aluminum Finish: Cool gray powder coating Dome: Polycarbonate	
Connector:	Aux Video Output: 2-pin Molex connector Power Input: Removable screw terminal block Network: RJ45 connector	
Environmental Specifications		
Temperature:	Operating: -4°F to 122°F (-20°C to 50°C) Storage: -40°F to 158°F (-40°C to 70°C)	
Relative Humidity:	0% to 85%, non-condensing	
Rating:	IP66	

IP Specifications			
H4SVP(X) Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
640 x 480 (4:3)	0.84 Mbps	30/25	8.86
640 x 360 (16:9)	0.70 Mbps	30/25	7.39
320 x 240 (4:3)	0.32 Mbps	30/25	3.33
320 x 180 (16:9)	0.25 Mbps	30/25	2.58
H4S1P(X) Resolutions:			
1280 x 720 (16:9)	1.8 Mbps	30/25	18.98
800 x 450 (16:9)	1.2 Mbps	30/25	12.65
640 x 360 (16:9)	0.6 Mbps	30/25	6.33
320 x 180 (16:9)	0.21 Mbps	30/25	0.89
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth Constant or variable bit rate		
Security:	Multiple user access levels with password protection		
Video access from web browser:	Full control of all camera settings available to Administrator.		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		
Regulatory			
Emissions:	FCC part 15B, CE (EN55022)		
Immunity:	CE (EN50130-4)		
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1		
Mount Accessories			
HD4CHIP-PK	Pendant mount kit		
HD4CHIP-WK	Wall mount kit		

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure K-5 H4SVP(X)/H4S1P(X) Camera Side View with Dimensions

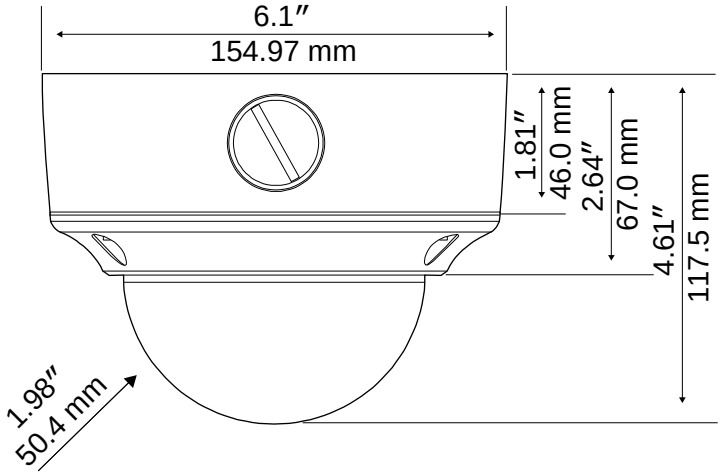


Figure K-6 H4SVP(X)/H4S1P(X) Camera Bottom View with Dimensions

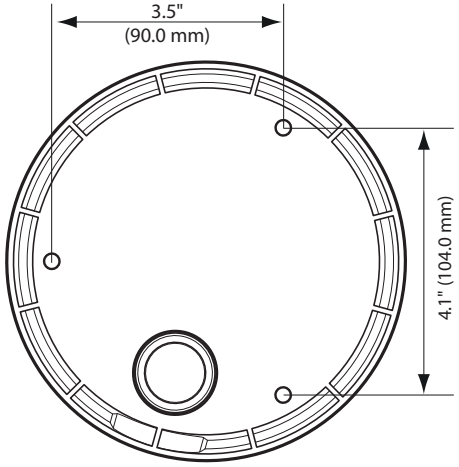


Figure K-7 H4SVP(X)/H4S1P(X) Camera Pendant Mount with Dimensions

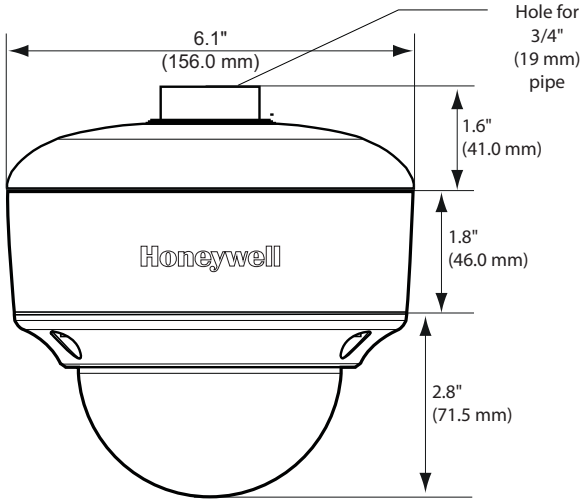
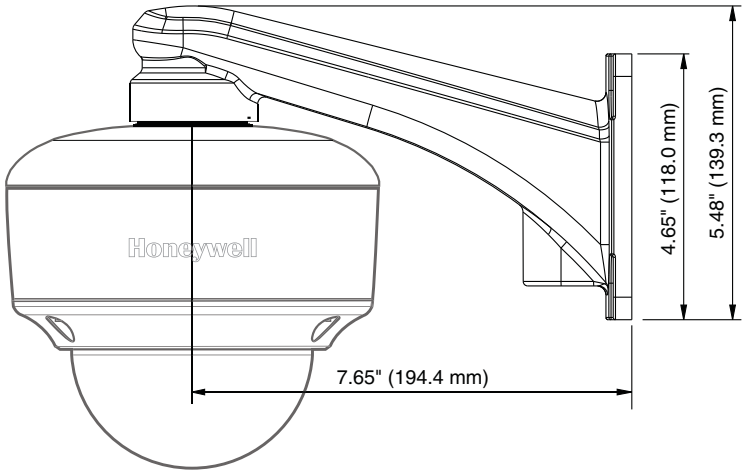


Figure K-8 H4SVP(X)/H4S1P(X) Camera Wall Mount with Dimensions



H4W1F(X) Specifications

Note Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/3″ CMOS	
Number of Pixels (H x V)	1280 x 720 (720p); 640 x 480 (VGA)	
Minimum Illumination:	0.14 lux color/0.1 lux for BW @ 50 IRE, F1.6	
Video Output (local):	1.0 *V*p-p @ 75 ohms	
S/N Ratio:	50 dB or more (AGC Off)	
Dynamic Range:	115 dB	
Auto Gain Control (AGC):	Off/On, selectable (20 – 40 dB)	
Auto Electronic Shutter (ELC):	1/30–1/87,000 sec	
White Balance (AWB):	Auto, WBC Push, Manual	
Lens Type:	True Day/Night (TDN) 3.3 mm to 12.0 mm Varifocal Auto Iris, F1.6	
Angle of View:	Wide	Tele
Diagonal	125.7°	29.9°
Horizontal	89.8°	23.9°
Vertical	63.6°	17.9°
Audio Signal Specifications		
Audio/Two-Way	Line in/out	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af	
Input Voltage Range:	17–28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	5 W (max) 24 V AC PoE: PD Type 1, Class 2	

Mechanical Specifications			
Dimensions (WxH):	See diagram (*Figure L-1*)		
Weight:	2.86 lb (1.3 kg) camera only		
Construction:	Housing: Die cast aluminum Finish: Light gray powder coating Dome: Polycarbonate		
Connector:	Aux Video Output: 2-pin Molex connector Power Input: Removable screw terminal block Alarm I/O: Removable screw terminal block Audio I/O: Removable screw terminal block Network: RJ45 connector		
Environmental Specifications			
Temperature:	Operating: -13°F to 131°F (-25°C to 55°C) Storage: -40°F to 158°F (-40°C to 70°C)		
Relative Humidity:	0% to 85%, non-condensing		
Rating:	IP66		
IP Specifications			
Video Compression:	Dual stream H.264 and MJPEG		
Primary Stream Resolutions:	**Bitrate H.264 (Typical)***	**Frame Rate**	**Storage/Day (GB)**
1280 x 720	2.7 Mbps	30/25	28.48
800 x 450	1.8 Mbps	30/25	18.98
640 x 360	0.9 Mbps	30/25	9.49
320 x 180	0.315 Mbps	30/25	3.32
Frame Rate (NTSC/PAL):	Up to 30/25 fps video in all resolutions		
Video Streaming:	Dual Streaming: H.264 and MJPEG Controllable frame rate and bandwidth Constant or variable bit rate (H.264)		
Security:	Multiple user access levels with password protection		
Video access from web browser	Full control of all camera settings available to administrator		
Web browsing requirements:	**IE8** and **IE9,** **Firefox** v17.01 or higher, **Chrome** v23.0.1271.97 or higher		
Operating system requirements:	Windows XP SP3, Windows 7 (32-/64-bit), Windows 2003 Server R2 (32-bit), Windows Vista SP1, Windows 2008 Server R2 (64-bit)		
Processor:	Pentium IV CPU 3.1 GHz or faster		
RAM:	1 GB RAM (32-bit) or 2 GB RAM (64-bit)		
Graphics card:	Display driver with Direct3D enabled (for camera IP web client only)		
Installation, Management, and Maintenance	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.		
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, NTP, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, SSH		
Standards:	ONVIF support		

Regulatory	
Emissions:	FCC, CE (EN55022)
Immunity:	CE (EN50130-4)
Safety:	EU: EN60950-1 North America ETL listed to UL/CSA 60950-1
Mounts	
HD4CHIP-PK:	Pendant mount kit
HD4CHIP-WK:	Wall mount kit

*The actual bitrate is scene- and motion-dependent with the H.264 stream.

Figure L-1 H4W1F(X) Camera Side View with Dimensions

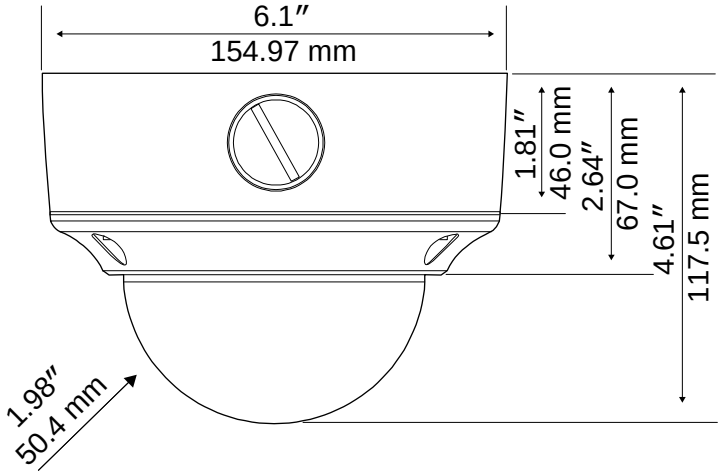


Figure L-2 H4W1F(X) Camera Bottom View with Dimensions

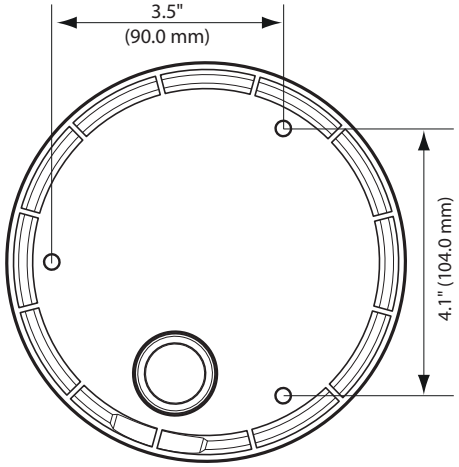


Figure L-3 H4W1F(X) Camera Pendant Mount with Dimensions

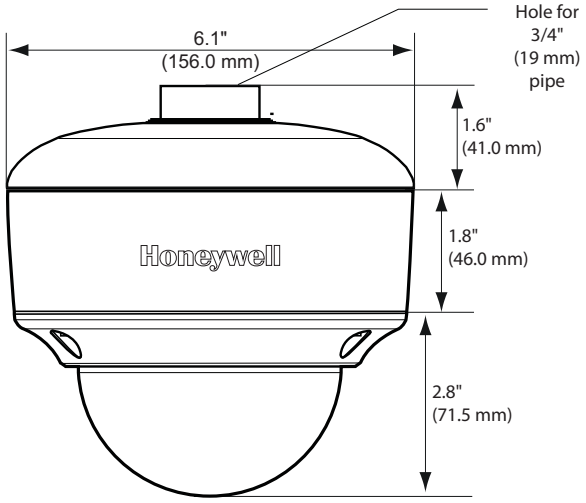
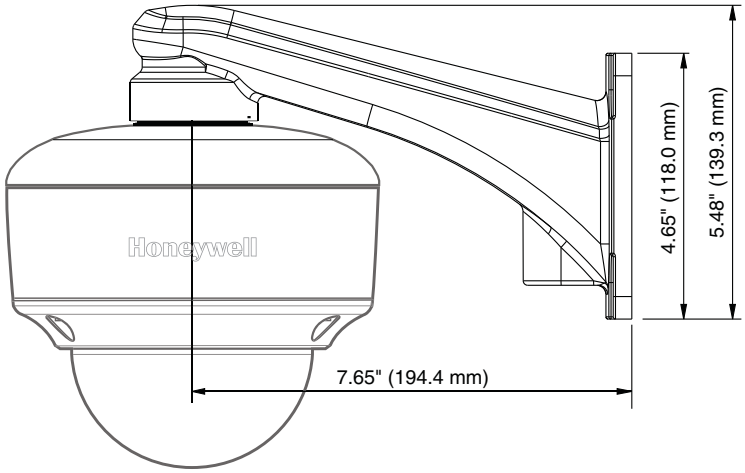


Figure L-4 H4W1F(X) Camera Wall Mount with Dimensions



M

Glossary

AGC (Automatic Gain Control) Video Amplifier in a camera that boosts the amount of video gain (including the noise) to maintain a 1V p-p (1-volt peak-to-peak) video signal output. It becomes operational when the light level is low. The circuit is designed to compensate for fluctuations in scene illumination which would cause the video output level to be too low. If the video level (scene illumination) is adequate, the circuit does not apply any gain to the signal. As the video level falls, more gain is applied by the AGC circuit to the video signal.

ALC (Automatic Light Compensation) Setting in an Auto Iris lens to control the iris opening. Adjusts between peak and average to respond to the bright part of the scene (peak setting) or the average value of the video signal (average setting).

DHCP (Dynamic Host Configuration Protocol) Allows a server to dynamically assign IP addresses to nodes (workstations) automatically. Provides client information including subnetwork mask, gateway address, and DNS (Domain Address Server) addresses.

DNR (Digital Noise Reduction) Digital Noise Reduction eliminates the “flicker” that can appear in an image under certain lighting conditions (for example, fluorescent lighting).

DSS (Digital Slow Shutter) Automatically provides a clear image under low-light conditions (increasing magnification may cause noise/distortion).

ELC (Electronic Light Control) Typically used with manual iris lenses. The image brightness is controlled electronically by the camera through automatically adjusting shutter speed for a properly exposed picture.

Flickerless Eliminates the “flicker” that can appear in an image under certain lighting conditions (for example, fluorescent lighting). This is usually caused by the interaction of the shutter with the AC frequency of the lighting. The flickerless setting changes the camera shutter speed to a value that will not cause flicker (1/100 sec, NTSC, 1/120 sec for PAL). The side effect is that the camera sensitivity is reduced because the electronic iris feature has effectively been turned off and will no longer control the optimum exposure setting for available light conditions.

FOV (Field of View) The part of the scene visible with a particular lens. The height (horizontal) and width (vertical) picture size at a given distance that can be seen through a lens. Generally, shorter focal length lenses have a wider field of view than those with longer focal lengths.

Gain The amplification a system provides to a signal.

IP Address A unique, 32-bit identifier for a specific TCP/IP host computer on a network.

Iris Adjust Adjusts the iris to either open or close in response to changing light conditions.

NTSC (National Television Standards Committee) A standard of specifications for television transmission in the U.S., Canada, Japan, Central American, and half of South America. The North American system uses interlaced scans and 525 horizontal lines per frame at 30 frames per second.

PAL (Phase Alternate Line) A standard of specifications for television transmission for color TV signals used in West Germany, England, Holland, Australia, and several other countries. It uses an interlaced format with 625 lines per frame at 25 frames per second.

PoE (Power over Ethernet) A method of powering Ethernet-connected devices via the Ethernet cabling as defined in the IEEE 802.3af standard.

Shutter Speed The speed at which the charge is read out from the CCD chip. Adjusts the light sensitivity of the camera. A faster (briefer) shutter speed can arrest the motion of a fast moving object (reduce image blur), rendering it sharp. Fast shutter speeds allow less light to all on the CCD and can darken the image. For fast shutter speeds, ensure there is adequate lighting. Usually selected using DIP switches on the side of the camera.

Subnet Mask A number used to identify a subnetwork so that an IP address can be shared on a LAN.

True Day/Night The incorporation of a moving mechanical IR filter within the camera ensures true 24 hour surveillance, providing high quality color images during the day and similar quality black & white images at night when used with IR lighting.

UPS (Uninterruptible Power Supply) These are power supplies used in the majority of high security systems, whose purpose is to back up the system when the main power fails.

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